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By-Burton, John R.; And Others

A STUDY OF THE OPPORTUNITIES FOR, REQUIREMENTS OF, AND KNOWLEDGES, ABILITIES, AND RELATED CHARACTERISTICS NEEDED BY BEGINNING OFFICE WORKERS IN THE STATE OF CONNECTICUT, WITH IMPLICATIONS FOR BUSINESS AND OFFICE EDUCATION.

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This study was designed to obtain detailed information on the qualifications and needs of young people seeking employment in Connecticut business offices. Survey forms were mailed to every fifth Connecticut company listed in the 1966 "Dun and Bradstreet Reference Book" and other companies recommended by the Connecticut State Employment Service. Of 1,226 firms contacted, 824 responded providing the data requested. Research teams conducted 522 interviews with beginning office workers and 353 supervisors of these workers in 130 firms which employed 5 or more beginning workers. Among the many findings were: (1) Most of the major employers were located in the metropolitan areas of the state, (2) Some firms carried on active recruitment programs and the high school was the main target for recruitment, (3) The tests most relied upon as selective devices were the aptitude test and a straight-copy typing test, (4) Nearly two-thirds of the workers held jobs that would be classified in the clerical job family, a sixth in machine operation jobs, and the remainder in secretarial, bookkeeping, and customer contact families, and (5) Nearly all workers had graduated from high school and only 1 in 4 had taken training beyond high school. (PS)

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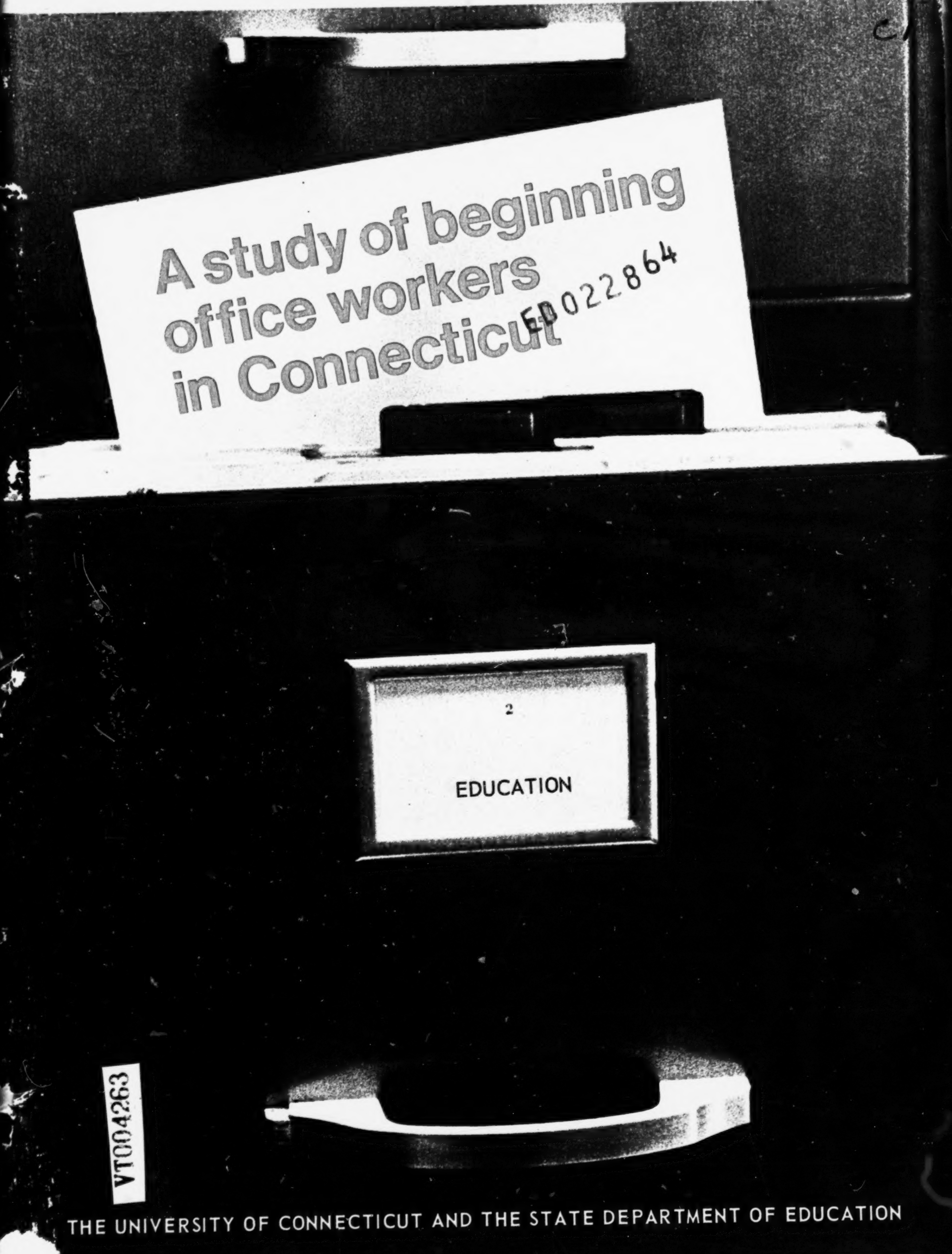

A study of beginning office workers in Connecticut

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THE UNIVERSITY OF CONNECTICUT AND THE STATE DEPARTMENT OF EDUCATION

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

A STUDY OF THE OPPORTUNITIES FOR, REQUIREMENTS OF, AND KNOWLEDGES, ABILITIES, AND RELATED CHARACTERISTICS NEEDED BY BEGINNING OFFICE WORKERS IN THE STATE OF CONNECTICUT, WITH IMPLICATIONS FOR BUSINESS AND OFFICE EDUCATION

Short Title: A STUDY OF BEGINNING OFFICE WORKERS IN CONNECTICUT

by

John R. Burton

Julie A. Carlson

William R. Paquette

Patricia A. Snyder

Nancy L. Whitehouse

Harriet L. Baker
Secretary

Herbert Garber
Research Consultant

Dean R. Malsbary
Director of the Study

of the

School of Education
University of Connecticut
Storrs, Connecticut

in cooperation with and funded by

Division of Vocational Education
State Department of Education
Hartford, Connecticut

1967

PREFACE

This study was undertaken as a result of an expressed desire on the part of the Division of Vocational Education of the Connecticut State Department of Education for detailed information concerning the qualifications and needs of those persons who are beginning their careers in the business offices of private firms in the state of Connecticut. It was felt that such information would be of considerable assistance to secondary schools, both public and private, in determining whether they are meeting the needs of students who have in mind entering an office occupation.

A preliminary proposal was drawn up by the Director of the Study and discussed with representatives of the Division of Vocational Education, and in particular with Dr. Philip T. Masley, Consultant for Research for the Division. The preliminary proposal was then discussed with an advisory group of businessmen of the Hartford Chapter of the Administrative Management Society. This Committee, consisting of Messrs. Howard H. Becker, Donald J. Day, Donald Illig, Harry F. Merrow, and L. J. Stanford, recommended certain basic changes in the proposed study. The proposed plan was revised and discussed again with the above interested parties who gave unstintingly of their time, both in group session and in private contacts, when called upon during various phases of the study.

The project was subsequently approved, and funds were committed by officials of the Division of Vocational Education, Mr. Joseph Murphy, Director, and Dr. Herbert Righthand, Chief of the Bureau of Vocational Services. Dr. Dean R. Malsbary of the University of Connecticut was designated Director of the Study, and contracts for both phases of the study were awarded to the

University. The research team who conducted the investigation and authored the report, as indicated on the title pages, was assembled by the Director of the Study, with the advice and assistance of administrative officials of the University's School of Education, William H. Roe, Dean.

The research team expresses its appreciation to the members of the advisory committee from the Hartford Chapter of the Administrative Management Society for their guidance and assistance, and to the business firms (listed in Appendix A) and their personnel who cooperated in all phases of the study. Valuable assistance was given by certain state agencies during that stage of the study during which the interview instrument was being tested and refined. Appreciation is expressed to the Connecticut State Labor Department, the Highway Department, the Welfare Department, the Motor Vehicles Department, and to the Connecticut State Employment Service for the helpful assistance they rendered.

The team also greatly appreciates the fine cooperation and assistance given by officials of the Division of Vocational Education of the Connecticut State Department of Education, and by the administrative officers and staff of the University of Connecticut throughout the course of the study.

The master copy of this entire report was typed on the IBM Magnetic Tape Selectric Typewriter by Miss Nancy Whitehouse.

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CHAPTER I

THE PROBLEM

The work of the modern business office and of the personnel who perform it are important aspects of the total productive effort of United States business firms. Since the work of the office is largely a center for the processing and communicating of information, it is often referred to as the facilitating function of business. Much of the work of the office is assigned to those who are in their first office jobs, and the efficiency with which they perform their work depends upon the nature and amount of the work they are assigned to do and the adequacy of their qualifications and interest to do good work. The demands of the business office require people who possess the knowledges, skills, and understandings that enable people to obtain and succeed in office job entry positions, and who possess the educational and other qualifications for advancement to positons of greater responsibility. Youth and the business community look to the schools to provide the educational opportunities to develop these skills, knowledges, and understandings. However, relatively little research has been undertaken which can serve as a basis for assisting the schools to evaluate continually the adequacy of their educational programs in terms of the needs of students and of the community.

Statement of the Problem

The present investigation sought to identify the office job-entry positions in business firms in the State of Connecticut, the nature of the work the beginning workers are assigned to perform, and the knowledges, skills, attitudes, and understandings they need in order to perform the work. It is hoped that the study will serve as a basis for examining the opportunities afforded high school students preparing for office careers to develop knowledges, skills, attitudes, and understandings needed for success on the job.

There were two phases to the study. Phase One has as its purpose identifying the business firms in the state that were the major employers of beginning office workers. At the same time information was gathered on the types of jobs for which these beginning office workers were employed.

On the basis of the information obtained in Phase One, Phase Two involved interviewing beginning office workers and their supervisors to discover the jobs for which beginning workers were employed, the tasks that they were expected to perform, the equipment they used, the personal characteristics needed for the job, and the knowledges, skills and understandings needed to succeed in their work.

The State of Connecticut

In order for the out-of-state reader to obtain the most out of the report of this study, it is necessary for him to know something of the state of Connecticut--its geography, people, education, resources, and its business and industry. The state, though 48th in size among the 50 states of the nation, is approximately 50 miles wide and 100 miles long. Connecticut ranks 24th in population, 21st in retail trade, 13th in value added by manufacture, first in percentage of skilled workers to total workers, and among the first in per capita income.[1] It is one of the six New England states, and is bordered by New York, Massachusetts, Rhode Island, and Long Island Sound.

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[1] Figures based on information made available by the Connecticut Development Commission as presented in a series of pamphlets distributed from the State Office Building, Hartford, Connecticut.

The state is made up of four distinct geographical areas: The western uplands, the central lowlands, the eastern uplands, and the central plains. The western uplands are characterized by forested hills and valleys with rocky soil. The Naugatuck and Housatonic Rivers encouraged the growth of milltowns, and Danbury and Waterbury are the two major cities in this area. The central lowlands are the major agricultural lands of the state particularly that section around the Connecticut River Valley. Hartford and New Britain are the two major cities in this area. The eastern uplands feature gentle hills and valeys, and the small farms and poultry ranches found here are well suited to this type of terrain. Urban development is centered around the river banks of the Thames, Quinebaug, and Shetucket Rivers, and include the cities of Norwich and New London. The coastal plain in the south is the center of varied seaside business and recreation. The western portion of the coastal plain contains the large cities of New Haven, Bridgeport, Norwalk, and Stamford.

Although the state is well known as the center of the insurance industry, the basis of Connecticut's economy is the production of such manufactured goods as aircraft engines, rubber, typewriters, electrical equipment, silverware, firearms, ball bearings, and chemicals. Its agricultural production includes dairy and poultry products, tobacco, vegetables, greenhouse and nursey growth, and potatoes.

The 2,873,000 population of Connecticut, as of July, 1966, is not concentrated in one large city, but is primarily dispersed throughout the 12 cities and towns having a population of over 50,000 persons. The density of population, 586 persons per square mile, is the 4th greatest in the nation. The high rate of population growth, which is first in the northeastern section of the United States, is accounted for in part by people moving into the state to work in its business and industry. The population working in manufacturing has shown no fluctuation since 1947, though nonmanufacturing employment has been on a constant rise.

Connecticut places much emphasis on education of its young adults. In addition to strong systems of public and private elementary and secondary education, the state provides opportunities for those who wish to prepare for the skilled trades through a strong system of vocational-technical schools located in the principal industrial centers. In addition to the state university and its branches, the state operates four state colleges and a growing number of public community colleges. Private and parochial colleges, business schools and other post-secondary institutions also offer educational opportunities throughout the state. Training and education in business administration and business education is offered in the secondary schools, the junior colleges, the state colleges and the state university, though not as regularly offered work in the regional vocational high schools or technical institutes.

The Clerical Worker in the Business Office

The work of the office is an important aspect of the total productive effort, not only because of the nature of the work performed, but also because of the numbers of persons who have chosen office careers. The number of clerical workers in the United States is substantial and their ranks, according to forecasts, are destined to continue growing in the future. Connecticut's percentage of clerical workers not only exceeds that of the nation, but the rate of growth has been increasing at a faster rate than that of the nation as a whole.

It is generally believed that the schools of Connecticut have a responsibility to provide stimulating and relevant business education programs which will attract and prepare students to meet the growing need for clerical workers by business firms in the state. In order to provide a worthwhile program, the schools must offer opportunity to learn about those aspects of business which remain relatively constant as well as about those which are of a more transient nature. In order for the schools to keep up-to-date on the needs of and changes in business, there must be communication between business and education. To meet the needs of business and of the youth who plan to enter the business world, there must be continuous improvement in the preparation of those who will work in the business offices of Connecticut firms. These ordinarily enter the business world in beginning office clerical positions.

Clerical Workers in the National Labor Market

The number of clerical workers in the United States has been increasing rapidly at a rate disproportionate to that of the total labor force. In 1950 about 7 million or twelve percent of the country's labor force of 57 million were employed in clerical occupations.[2] As of September 1966, the United States had over 3.5 million male clerical workers and 8.4 million female clerical workers. The work force of about twelve million clerical workers is approximately sixteen percent of the total labor force of over 74 million.[3] Thus there appears to have been an increase of some 5 million clerical workers in the last sixteen years. During this period the total labor force expanded by 30 percent, while the clerical work force was expanding by 70 percent. Between the years 1964 and 1965 alone there was an increase of a half-million office workers, representing a 4.7 percent over the previous year.[4] The increase that year was greater than that of almost any other occupational group.

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[2] United States Bureau of the Census, Seventeenth Census of the United States: Vol. II, Part 1, U. S. Summary, (Washington: Government Printing Office, 1952), p. 101, Table 53.

[3] United States Department of Labor, Employment and Earnings and Monthly Report of the Labor Force, Vol. XIII No. 4, (Washington: Government Printing Office, 1966), p. 32, Table A-16.

[4] The United States Department of Labor, Manpower Report of the President and a Report on Manpower Requirements, Utilization, and Training, (Washington: Government Printing Office, 1966), p. 20, Table 6.

Not only has the trend to the present time shown a considerable growth in the number of office workers, but the projections for the future indicate that this growth will continue. Between 1965 and 1970, the total working force is predicted to increase by 12.5 percent, while the occupational group of clerical workers is expected to increase by 18.2 percent.[5] Projections outlined in the Occupational Outlook Handbook indicate that this trend will continue at least until 1975, as indicated by the following statement:

> Employment in clerical occupations is expected to rise very rapidly during the 1965-75 decade. As employment rises to meet the needs of an expanding economy, it is anticipated that more than 300,000 new positions in clerical and related occupations will be added each year. And an even greater number of clerical workers will be needed each year to replace those who retire or leave the job for other reasons.[6]

Clerical Workers in the Connecticut Labor Market

The demand for clerical workers in Connecticut has even exceeded the national demand in recent years. In the decade from 1950 to 1960 office employment in the nation as a whole rose 33.8 percent, while during the same period such employment in Connecticut rose 38.2 percent.

The figures set forth below in tabular form give a more detailed comparison of the clerical employment picture of Connecticut and of the nation. It will be observed that even though clerical occupations are important to the nation as a whole in terms of numbers of such workers employed, they are even more important to Connecticut.[7]

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[5] The United States Department of Labor, Manpower Report of the President and a report on Manpower Requirements, Utilization, and Training (Washington: Government Printing Office, 1966), p. 43, Table 14.

[6] The United States Department of Labor, Occupational Outlook Handbook, 1966-67 Edition (Washington: Government Printing Office, 1966), p. 280.

[7] United States Bureau of the Census, Eighteenth Census of the United States: 1960. Population Part 8 Connecticut (Washington: Government Printing Office, 1963), p. 264, Table 120.

	United States	Connecticut
1950		
Total employment	56,435,273	827,610
Clerical Employment	6,964,440	117,504
Clerical as a percent of total	12.3	14.2
1960		
Total Employment	64,639,256	1,010,444
Clerical Employment	9,306,896	162,437
Clerical as a percent of total	14.4	16.0
1950 to 1960		
Percent of increase in total employment	14.5	22.1
Percent of increase in clerical employment	33.8	38.2

Changes in the Nature of Clerical or Office Work

One of the major and often valid criticisms of business and businessmen concerning the office education in the high schools is that it is often behind the times in teaching modern office competencies and knowledges. It becomes increasingly more difficult each year for the schools to keep pace with changing business demands. New and expensive office machines are constantly being introduced into business offices. The use of automated equipment, for example, combined with other factors, makes it possible for some knowledges and skills to become obsolete long before the schools make necessary changes in their curriculums. Berry, in her dissertation dealing with an aspect of office education, infers this educational lag in the following statement:

> In spite of the fact that general office employees constitute a high percentage of the country's working force, that the volume of information handled within the office has increased, and that changes in the method of handling data have affected the activities of those employed in office occupations, very little thought has been directed towards either the present-day nature of this major area of employment or the needs for pre-service training.[8]

Educators often do not have the time or the training to identify from businesses the skills, knowledges, and other types of competencies that are expected of the office worker. Business has no direct channel to the schools to let the schools know the kinds of office help they need. As a result of this lack of communication, training given in high schools is not always designed to meet the needs of the office. This lack of matchings is expensive in terms of money and time of the student and the teacher. The necessity for the schools to know the occupational needs of business is stated by Erwin:

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[8] Doris A. Berry, "The Role of Office Practice Instruction in the Training for General Office Assignments" (unpublished Ed. D. dissertation, Indiana University, 1963), p. 3.

> As industry demands increasing vocational and education competencies in employees, it is necessary that vocational education become oriented to occupational needs and demands.[9]

Summary

The clerical function of recordkeeping and processing of data is a vital segment of business. It employs the knowledges and skills of circa one-sixth of the nation's total labor force. The present percentage of clerical workers in Connecticut is greater than that of the nation, and labor market forecasts predict an increasing rate of clerical workers entering the business office of the future.

Business expects that high school educational programs prepare young people to enter the business office, but often comments that the business education programs are behind in teaching modern office knowledges and skills. Educational research in the business world is an important way for schools to keep abreast of changes in the business world, but relatively little research has been undertaken and completed in business education. The present study is undertaken to provide a basis for evaluating and updating high school programs designed to prepare youth to enter and succeed in an office career.

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[9] Clifford H. Erwin, "An Investigation of Business and Industrial Employment Needs in Relation to Educational and Vocational Preparation in Selected Areas of Illinois" (unpublished Ed. D. dissertation, 1963), p. 2.

Limitations and Delmitations

Limitations

Inasmuch as the basic data were secured by means of the personal interview, the beginning office employees and their supervisors who were subjects in the study were those accessible to the researchers when they conducted the interviews. Bad weather, sickness, demands of the job, and in a very few cases, refusal to be interviewed made it impossible to carry out some of the interviews that had been arranged.

The interviewing environment was largely dependent upon arrangements made by the company even though specific requests and suggestions in this regard had been made by the Director at the time he contacted the cooperating company. In some cases the company had previously explained the purpose of the interview to the office employees and supervisors, whereas in other firms the interviewees arrived in answer to a summons, quite ignorant of the interview to be held. The physical accommodations for the interview varied according to availability of space in the company.

In some instances, it was not possible for the interviewer to obtain all of the information he would have liked to solicit. Occasionally an answer was unknown, very difficult to look up on the basis of company records available, or the company simply failed to supply certain information.

Time imposed a certain limitation. When scheduled interviews exceeded the expected period of time, it was not always possible to complete all of the interviews scheduled at a company. These situations, however, were not frequent.

Responses on the part of the interviewees were also limited by the extent of their understanding of the questions asked. Assistance in interpreting the questions, however, was given by the interviewers. This is an advantage of the interview technique of gathering data over other methods.

Delimitations

The study was confined temporally to one year and geographically to the State of Connecticut, since the state funding agency approved a grant for the proposed one-year study which would contribute information to assist in improving business education programs in the high schools of this state.

The companies who participated were delimited to the researchers' original contacts as hereinafter described. Interviews were held only in those companies who agreed to participate in this aspect of the study.

In order to encourage the cooperation of the companies and their employees, the length of the interviews with office employees was set at thirty minutes, and the interview with the supervisor was designed for approximately ten minutes. This self-imposed time limit restricted the information which was obtained and the type of items included in the interview guide. It should be pointed out, however, that some interviews exceeded this time allotment and any additional time needed was taken in order to complete the interview.

Definitions of Terms Used

Office--The firm's information center engaged in clerical activities for the handling of data and communications.

Office employee--A worker whose primary duties involve preparing, processing, recording, and filing communications and information within an office situation. This would include such employees as bookkeepers, clerks, typists, stenographers, receptionists, switchboard operators, payroll clerks, office machine operators, office supervisors, file clerks, mail clerks, etc.

Supervisor--A company employee who is designated to oversee the work of others.

School leaver--A person who dropped out of school before earning a high school diploma or a high school graduate with little or no full-time post secondary education.

Beginning office worker--A person who has had little or no previous full-time business experience prior to this job, who has no more than a high school diploma, and who is considered to be an office employee.

Major employer--A business which employes a substantial number of beginning office workers.

Major business--A privately owned, Connecticut-based firm listed either in Dun and Bradstreet Million Dollar Directory or Dun and Bradstreet Middle Market Directory.

Validating business--A member of the sample population drawn from Dun and Bradstreet Reference Book which lists the 32,000 Connecticut-located firms.

C.S.E.S. business--A company identified by the Connecticut State Employment Service as an employer of a substantial number of beginning office workers.

Method of Procedure

The present study is divided into two distinct phases. Phase I had as its objective the identification of major employers of beginning office workers; that is, the attempt was made to determine those companies that employ a substantial number of persons who are not experienced office personnel and who have not had a substantial amount of work beyond high school. Ordinarily, then, these would be companies hiring, within a given period of time, five or more beginning office workers.

Phase II involved seeking the cooperation of the firms identified as major employers in permitting members of the research team to interview the firm's beginning office workers and their supervisors in order to ascertain the job to which beginning workers are assigned, the requirements of the job, and the qualifications and adequacy of the beginning employees' preparation to do the work which they are called upon to do.

Identification of Major Employers (Phase I)

1. All the business firms listed in the Connecticut section of the 1966 Dun and Bradstreet Million Dollar Directory and the 1966 Dun and Bradstreet Middle Market Directory were identified. These directories, published up to date by the business credit-rating firm of Dun and Bradstreet, list respectively companies having a net worth of from a half-million dollars to a million dollars.

2. As a means of validating the identification of the major employers, the 1966 Dun and Bradstreet Reference Book was used. This book contains over 32,000 Connecticut companies arranged alphabetically by town and by name of businesses within the town. The companies are listed in a 100-page section of the book, four columns per page with approximately 80 company names to a column. It was determined by lot that every fifth listed company of each column be selected.

3. As a further means of validating the identification of the major employers of beginning office workers and of making certain that all major employers of beginning office workers were included in the study, the cooperation of the Connecticut State Employment Service was obtained; and each district manager identified, in the geographical area served by his office, the business firms from which his office received a substantial number of requests for office help.

4. A survey form was prepared and mailed to each of the companies identified from the three Dun and Bradstreet books. The form was designed to obtain basic quantative information concerning the number and type of employees hired by the company. It was accompanied by a covering letter from the director of the study briefly explaining the nature of the study and requesting the company's cooperation in completing and returning the form. A copy of the form and of the covering letter appears as Appendix A.

5. Information about companies obtained from the Dun and Bradstreet Million Dollar Directory, the Dun and Bradstreet Middle Market Directory, and the Dun and Bradstreet Reference Book, or by direct contact with a firm, was recorded on index cards. A card was kept for each company on which was recorded as much of the following information as was available from the aforementioned sources:

name of company
assigned identification number
Standard Industrial Classification code number (SIC)
type of business
address
name of chief executive
telephone number
total number of company employees.

The information on these cards served as the basis for mailing the survey forms to the businesses included in the sample. The more up-to-date data obtained on returned survey forms were:

name of company
total number of employees
total number of office employees
total number of beginning office workers employed in a specified six months period
types of jobs held by beginning office workers.

6. A similar survey form was prepared and mailed to those companies identified by the Connecticut State Employment Service managers which were not among the firms listed in the Dun and Bradstreet publications. The same covering letter referred to above was sent with this letter.

Identification of Entry Jobs and Demands Made of Beginning Office Workers (Phase II)

1. An interview guide was developed for use by the interviewers as they talked with beginning office workers and their supervisors. The decision to use the interview as a primary means of gathering most of the data, as opposed to using other possible means available, was based upon the belief that more nearly valid findings would emerge from its use. It was felt that:

   a. Private person-to-person contact is more conducive to free and uninhibited discussion than would be the case if interviewees were asked to read questions and write answers in their own identifiable handwriting.

   b. New young workers who were also school leavers might have some problem extracting true meaning from questions put to them in a printed questionnaire, no matter how carefully they were phrased or written. The interviewer, on the other hand, could rephrase or explain questions she put to the interviewee or clear up other misunderstandings that may occur.

   c. A first-hand acquaintanceship with the office personnel and the office environment within which the interviewee works is important to an understanding of the interviewee. This could only be obtained through personal visits to the firms.

2. Much time and consideration was given to the nature, type and coverage of the questions to be directed to the interviewees. A careful study was made of available research, textbooks, courses of study, job descriptions, and the like, dealing with job tasks, knowledges and other office worker characteristics. This was to assure that the interview guide items provided thorough coverage and solicited the type of data sought from interviewees. In addition, every section of the interview guide, where appropriate, ended with an open-end question which permitted additional response by interviewees.

3. As a basis for refining the instrument, the interview guide was initially tried out on clerical workers at the University of Connecticut and in small companies who would not be subjects in the study. In addition, a group of five businessmen comprising the Education Committee of the Hartford Chapter of the Administrative Management Society, with whom the Director had discussed the study in its early stages and who had given many helpful suggestions, accepted copies of the early drafts of the interview guide and offered suggestions for revision. On the basis of the tryouts and these suggestions, revisions were made.

4. The revised interview guide was then tried out in offices of the university community, government agencies, and private business firms. The interview guide was revised and re-revised and finally deemed to be in final form for use with study subjects. The final revised interview guide is presented as Appendix B.

5. An interviewer's manual ("Instructions for Interviewers") was developed as a means of assuring uniform presentation, interpretation, and explanation of questions put to the interviewee. This manual appears as Appendix B. Among other suggestions made were those relating to describing the study briefly to the interviewees and assuring them that all information is held in strictest confidence.

6. The director of the study wrote to each of the companies who had completed and returned the appropriate survey forms and who had indicated that they had employed, in a specified six-months period of time, five or more beginning office workers. The letters were individually prepared on automatic typewriters, described the second phase of the study, and requested the cooperation of the company in permitting members of the research team to interview the company's beginning office workers. An appropriate reply form and a sheet

describing the study and identifying the type of worker to be interviewed were enclosed. The letter and related materials appear as Appendix A.

7. In both Phase I and Phase II, approximately three weeks after initial correspondence was mailed, follow-up letters were mailed to firms who had not responded to the earlier correspondence. To further assure that every attempt had been made both to invite company participation and to receive a response to the invitation, the Director personally called a randomly selected number of non-respondees to assure that they had received all correspondence and to issue to the management of the company a personal invitation to participate in the study.

8. In order to increase the number and types of companies and workers included in the sample, phone contacts were made with additional selected companies. Arrangements were made for interviewing workers and their supervisors in all cooperating companies.

9. The employees to be interviewed within a business firm were selected in the following manner: if permitted to do so by the cooperating company and when the number was limited, all beginning office workers in the firm (as defined in the study) were interviewed. Thus in a company that at time of interview had employed eight beginning office workers since June 1, 1966, all were interviewed. In large companies, and particularly in those companies employing large numbers of beginning workers many of whom were assigned similar tasks, the beginning workers to be interviewed were selected from representative beginning office jobs. This selection was usually undertaken by the Director of the study in consultation with the Personnel Office of the cooperating firm, and every attempt was made to identify and arrange for the interview of those employees who seemed to be representative of the job group.

10. The interviews were conducted with the beginning office workers and their supervisors by five research assistants. The responses of the inter-

viewees were recorded on the mimeographed interview guide. The interview guide, with response-blank columns numbered for IBM punch cards, appears as Appendix B.

11. A detailed code was developed so that the information on the interview guides could be translated into language suitable for punching onto IBM cards. A code was adopted for items in which the answers usually fit into an anticipated and restricted multiple-choice pattern. However, on items of the multiple-choice variety in which there was a choice of "other" or on items which were open-ended, a legend, based on a sampling of 150 interview guides, was developed for coding purposes.

12. Upon completion of all interviews, members of the research team coded in red the recorded responses in the manner set forth in "Coding Suggestions." The directions appear as Appendix B.

13. The coded interview guides were then turned over to the University's Data Processing Center where trained punch-card machine operators transferred the coded responses onto punched IBM cards. Every card was verified.

14. The original set of cards were duplicated and only the duplicated or reproduced decks were used on the unit record and computer equipment.

15. Unit record equipment and programs written for the 7040 computer were used in processing the cards and in analyzing the data the cards contained.

16. The first type of computer operation was a series of tabulation runs which produced the various totals and subtotals of various categories as reported in most of the tables, except those dealing with the factor analysis of perceptions the interviewees had of knowledges, skills, and understandings demanded by the job.

17. The next type of computer utilization was the preparation for and actual computation of factor analyses, using the varimax rotation techniques, on the workers' responses relating to what they felt they needed to know and be able to do in order to perform their work adequately. Procedural detail on these and related aspects will be set forth in a later section of the report.

Organization of the Report

The report, to this point, has presented a general statement of the importance of the clerical worker in the State of Connecticut and in the nation as a whole in the productive effort of modern business. A broad statement of the problem and its limitations and delimitations, and step-by-step procedure employed in undertaking and conducting the study have also been discussed. Chapter II presents a review of research that is related to the present investigation and that has been conducted within the last few years.

Chapters III, IV, and V set forth specific questions based on or derived from the earlier statement of the problem and seek to present and interpret findings that answer them. Thus, Chapter III deals with the question: What Connecticut businesses are the major employers of beginning office workers, and who are the workers in beginning office positions? Chapter IV deals with the question: What jobs do beginning office workers obtain and what tasks are they called upon to perform?; whereas Chapter V treats the question: What skills, knowledges, understandings, and personal characteristics are needed for success in beginning office positions?

The final chapter (VI), sets forth a summary of the study and the conclusions and recommendations. The appendices present tables, data collection instruments, and other pertinent and useful information not included in the body of the report but to which reference is frequently made.

CHAPTER II

RELATED LITERATURE

An Overview of the Research

Other investigators have also given attention to the opportunities for beginning office workers, the demands made of them, and the education or training which may prove of greatest benefit to them. These investigations are related to the present study in objectives, method, and/or subjects studied.

Both the number and varying emphasis of studies dealing with competences needed by the beginning office worker indicate the importance which educational researchers assign to this aspect of business education. Each investigator has examined a facet of the total business education field, and the individual study complements other research in the same area. No total picture emerges, however, for much research remains to be done.

Several studies focused on the entry job opportunities and requirements for those with a high school education or less. A number of researchers investigated competences required for specific jobs, while others probed the duties and preparatory qualifications of the general office worker. The focus shifts from the beginning worker to the employer in studies which synthesized employment need as expressed by employers.

The reviewed studies employed two techniques of data colection: the questionnaire and the interview. Although the majority of the investigators used the questionnaire technique, either method has its advantages and limitations. One investigator employed the questionnaire in a study, but stated that the interview technique is better for pinpointing skills and knowledges. Researchers who employed the interview method constructed special interviewing instruments for their investigations and refined their instruments through tryouts. A few investigators used both interviews and questionnaires in their data collection, gaining the advantages of both instruments.

The assistance of a governmental employment service was used by two researchers in data collection. Offices of an employment service aided business education research by compiling a list of major market employers for one study and by assuming responsibility for the distribution of an employment opportunities questionnaire for another study.

General trends in opportunities for clerical jobs were noted in the findings of two studies. It was found that entry jobs occurred more often in the larger companies; a majority of the beginning workers were absorbed in finance, real estate, and insurance firms; and there was a high percentage of clerical entry jobs.

Opportunities in particular jobs were revealed by several studies. Twenty-seven office occupations in businesses using computer installations were identified for entry workers who had no more than six months of education or training beyond high school. Many job opportunities were open to stenographers, typists, general clerks, and accounting clerks; these four jobs also had the highest predicted future increase.

Both general and specific competences needed by beginning office workers were in the findings and conclusions of the reviewed studies. Several studies outlined specific and fundamental skills and knowledges needed by the entry workers. One study revealed traits which the entry worker should possess. Two studies emphasized the competences demanded of the entry worker seeking a job in a period of technological innovation.

Several studies revealed the role of business education in the preparation of high school students for entry jobs. Studies which polled businesses found that they favored school preparation for beginning jobs. An exception to this secondary school office job preparation was the executives polled in one study who indicated that the task training given in the office practice course could be done as well, if not better, during employment. While the business pupils and teachers sampled in one study indicated that provision for development of all competences had been provided, other studies noted that most schools could improve their business education programs.

A Review of Specific Research Studies

Studies Most Closely Related to the Present Investigation

The two studies most closely related to the present investigation were those made by Cook and Clow. Cook's study was similar to the present one in that the researcher studied the opportunities and requirements for beginning office workers in the Detroit area.[1] Clow's investigation was related to the present research in its focus on the business offices of Connecticut's business firms.[2]

Cook's study focused attention on high school graduates or twelfth grade dropouts of the Detroit system and their initial employers. The fourfold purpose of Cook's study was to determine (1) the current labor market for high school leavers concerning jobs available and business skills needed as reported by employers; (2) the absorption of school leavers into entry jobs; (3) the relationship between data collected from school leavers and businesses; and (4) the development of a prototype for examining entry job opportunities and requirements which could be used by other school districts.

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[1] Fred S. Cook, Opportunities and Requirements for Initial Employment of School Leavers with Emphasis on Office and Retail Jobs (Detroit: Wayne State University, 1966).

[2] Cletus A. Clow, Business Education Curriculum Implications of the Effects of Technology on the Types of Office Machines Used by Selected Connecticut Businesses (Hartford: Connecticut State Department of Education Division of Vocational Education, 1967).

The Detroit business firms were stratified into five strata by size and classified by Standard Industrial Code (SIC). Of the 35,091 businesses in Detroit, 683 were chosen for the study by sampling procedures within the strata. Six hundred employer respondents were interviewed three times each at six-month intervals. A sampling of school leavers was stratified by the following areas: whether twelfth grade graduate or dropout, school attended, and sex. From a total of 7,422 graduates and 330 dropouts, a total of 969 was chosen by sampling techniques. Each of the 969 school leavers was interviewed once. Special interview instruments were constructed and employed by professional interviewers.

Among the significant findings and conclusions, it was found that a large company was more likely to hire entry personnel; and that 9 out of 10 Detroit businesses did not employ school leavers for entry office and retail jobs. Businesses did not consider the schools an important source for recruiting and screening 16-21 year olds. Most large companies used tests in screening applicants, with about half of the middle-sized companies and approximately one-fourth of the small companies using tests.

Two out of three school leavers found entry jobs in finance, real estate or insurance businesses; and approximately 40 percent of entry jobs were clerical. General office clerks accounted for 22 percent of all office and entry jobs; typists were next highest in percent of jobs. It was found that secretarial and stenographic jobs had the highest ratio of skills to job demands; typists and general office clerks were next highest in ratio of skills to job demands.

Forty-four percent of all office and retail jobs demanded typing, and retail jobs demanded fewer skills than office jobs.

More than two-fifths of the school leavers reported holding more than one full-time job, indicating a high job turnover. Above average aptitudes on IQ tests were scored by those entering clerical jobs. Both sex and race were significant influences in the type of entry job obtained by school leavers. It was found that cooperative work experience was a positive influence in securing an entry job, and most full-time school leavers found full-time employment within six months after leaving school. More 16-21 year olds lost their jobs for incompetence and inability to do the job than for any other reason. Inability to get along with people accounted for one-third of the dismissals.

As a result of his findings, Cook recommended that basic skills and communication be stressed more in the high school curriculum. It was also recommended that the preparation of general office clerks and typists receive the highest priority in business education.

Curriculum implications of the types of office machines used in Connecticut business firms was the focus of Clow's research. Questionnaires were sent to a sampling of Connecticut businesses in order to determine the types of office machines used, the number of employees using them, and the trends in use of various types of machines. A different questionnaire was sent to public high schools in order to identify the types of office machines on which instruction was given by the schools of the state.

The findings reported were based on 3,168 usable responses received from Connecticut businesses representing 61 percent of the businesses in the sample, and 124 usable responses representing 95 percent of the public high schools in the sample, On the basis of his findings, Clow made several recommendations relative to office machine training in the business education program. Only representative recommendations are reported here.

That more attention should be given to instruction on the ten-key listing machines was recommended, since it was found that this type of machine was preferred by business 2 to 1 over the full-keyboard type. There is a decreasing need for key-driven calculator operators, but there is a need for increased card-punch machine training. Because of the increased use of offset duplicating in Connecticut business offices, instruction on the use of the offset machines was recommended. Increased training in machine transcription was also recommended since many job opportunities are open to people with this skill. Inasmuch as there seems to be an increase in the use of the printing calculator, it was felt that more instruction should be given on this type of machine.

Studies Dealing with Preparation of Workers Using Data Processing Equipment

A survey was conducted by Jones to determine the knowledges and skills needed by clerical workers in first-level entry occupations in digital computer installations.[3] Jones recommended further research in this area using the job analysis technique, in preference to the questionnaire technique employed in her study, in order to pinpoint needed skills and knowledges. Her study was made to ascertain if there were employment opportunities in computer office work for clerical workers with only a high school education; and if so, what were the jobs for which these young people could qualify. The study was limited to digital computer centers in the State of Ohio which the researcher proved was representative of the United States, and data were collected from businesses representing 19 different types of enterprises.

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[3] Adaline D. S. Jones, "A Survey to Determine the Knowledges and Skills Needed by Clerical Workers in First-Level Entry Occupations in Digital Computer Installations" (unpublished Ph. D. dissertation, Ohio State University, 1964).

The investigator identified 27 occupations which required no more than six months of education or training beyond high school, the most frequently occurring job being that of keypunch operator. With respect to the contribution the high school could make to preparing a worker for tabulating and digital computer jobs, companies stressed training in the areas of data processing, mathematics, programing, and equipment operation.

The role of business education programs in high schools in the preparation of students for employment in firms using data processing equipment was the subject of LaSalle's study.[4] This investigation sought to determine whether there was agreement between business educators and businessmen concerning the objectives of the secondary business programs. Both groups were polled to ascertain their reaction to including preparation for employment in the automated business office, experiences which should be included, and the extent to which instruction on automated data processing equipment was offered. In his review of the literature, LaSalle noted necessary changes in the classic business courses as more offices make use of automated equipment. The study was national in scope, and data were obtained using the questionnaire technique.

The findings revealed that the majority of the respondents favored preparation for employment in firms using data processing equipment. At the time of this study, it was found that little instruction on automated equipment was given by secondary school business education departments.

Studies Dealing with Office Employees beyond Entry Positions

Some studies, also of interest, relate to office work beyond the beginning office positions. Steinbaugh's study analyzed the duties and responsibilities of first-line supervisors.[5] Information obtained by questionnaires completed by participants revealed that the high school-trained supervisors selected typewriting and bookkeeping as the courses which helped them most as supervisors. Steinbaugh recommended that secondary schools provide some experience for competences which the first-line supervisor needs.

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[4] James Frank LaSalle, "The Role of the Secondary School Business Education Department in Preparing Students for Employment in Business Offices Using Data Processing Equipment" (unpublished Ed. D. dissertation, Pennsylvania State University, 1963).

A later study dealing with the factors contributing to the selection of first-level office supervisors was undertaken by Deihl.[6] The findings showed that a majority of management executives believed some college education desirable, and the ability to work with superiors ranked first in a list of qualities. Previous performance was the most important single factor in selection, and the majority of companies did not have formal training programs for office supervisors.

The studies of Ferguson and Jones dealt with curriculum recommendations and business trends on the management personnel level. Ferguson's study recommended courses for an office management curriculum as a result of data obtained from managers who indicated needed knowledges, skills, and abilities.[7] Jones's investigation was made to determine trends in office management, predict future direction, and make recommendations for an office management college curriculum.[8]

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[5] Robert Paul Steinbaugh, "An Analysis of The Work of the First-Line Office Supervisor" (unpublished Ph. D. dissertation, Ohio State University, 1957).

[6] Lincoln Wesley Deihl, "Factors Contributing to the Selection of First-Level Office Supervisors with Implications for Business Education" (unpublished Ph. D. dissertation, Ohio State University, 1964).

[7] Frank Daniel Ferguson, "Some Recommended Areas of Study for a Management Curriculum Geared to the Potential Office Manager Based on Job Analysis of Office Managers" (unpublished Ph. D. dissertation, Louisiana State University, 1958).

[8] Catherine Murrison Jones, "Trends in Office Management as Revealed in the Literature, 1913-1962, with Implications for the Future of Office Management and for a College Curriculum" (unpublished Ed. D. dissertation, University of Colorado, 1964).

Studies Dealing with Effectiveness of Business Education Courses in Work Situations

Studies of the effectiveness of business education courses in job situations were made by Berry, Braden and Shepherd. Berry investigated the role of office practice instruction in training for general office assignments in order to determine whether this business education course bridges the gap between school and office.[9] The purpose of the study was to determine the duties, tasks, and preparatory qualifications of the general office worker; and to identify the duties and objectives of the office practice course. The general office jobs were divided into 19 major categories and all classifications treated alike. All data on the duties, qualifications, and job specifications of office assignments were brought together and analyzed to determine the composition of the general office job.

On the basis of the findings, it was concluded that in its present state the general office practice course commonly taught is not justified, for it stresses insignificant minutia and achieves too few educational values. In the opinion of office executives, the task training in the course can be done as well, if not better, during employment. Berry's study also identified the competences needed by general office clerks which should be included in the office practice course.

Shepherd developed a methodology for the appraisal of the business education preparation of general clerks, typist-clerks, and stenographers.[10]

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[9] Doris Anita Berry, "The Role of Office Practice Instruction in the Training for General Office Assignments" (unpublished Ed. D. dissertation, Indiana University, 1963).

[10] Reginald William Shepherd, "Job Competences--An approach to the Appraisal of Business Education" (unpublished Ed. D. dissertation, Stanford University, 1959).

The study sought to determine the competences required for satisfactory performance of the duties of these three jobs as perceived by key supervisors and employees.

Based upon data collected from female employees and their respective supervisors, the satisfactory performance of the duties of general clerks, typist-clerks, and stenographers were found to require competences in four areas. Competence in human relations and organization of the work were two areas. Application of fundamental knowledges of reading, handwriting, communications, and mathematics was another competence area. Use of such specialized knowledges and skills as filing, typewriting, dictation and transcription, bookkeeping, and operation of office machines was a fourth competence area. It was found that there were no significant differences between the perceptions of the employees and supervisors concerning these competences and the adequacy of the employee's present education for satisfactory performance of present and higher jobs. Appraisals made by female twelfth graders and business teachers indicated that provision for development of all competences had been provided.

Braden's investigation was concerned with determining the effect of varying amounts and types of vocational office training on the beginning office jobs held by female high school graduates.[11] The subjects were divided into four groups according to the amount of office training received in high school.

Significant differences were found between the four groups in labor market behavior. It was found that those with more vocational office training felt better prepared for work, obtained high level entering and ending jobs in office work, and were identified as having experienced stable beginning career patterns. Another significant finding was the value of high school vocational office training as preparation for entering an office career following graduation from high school.

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[11] Paul Vaughn Braden, "Effects of High School Vocational Office Training Upon Subsequent Beginning Career Patterns" (unpublished Ph. D. dissertation, Michigan State University, 1963).

Because many businessmen and educators have expressed appreciation of school supervised work experience as a major contribution to the educational background of prospective office workers, Shultz's study may also be related to the present investigation.[12] Shultz made a survey of the background and important elements of existing programs in cooperative office work experience. He found that some very definite values were gained from the training experiences, and some experiences were better learned in business offices than in the classroom. It was found that the effectiveness and extent of the programs varied, and the coordinator of the cooperative work program was a key in its effectiveness.

Studies Presenting, Summarizing, and Classifying Research in Office Practice Instruction

Of general significance to those interested in the education of beginning office workers are the studies completed by Miller and Prewitt which reviewed research in office education over a number of years. Miller's investigation was a comprehensive synthesis of research finding and professional writing in the area of office practice from 1924-1952.[13] Prewitt's study was an investigation of all research and professional literature related to the area of office practice from 1951-1959.[14]

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[12] Kenneth A. Shultz, "A Study of Cooperative Office Work-Experience Programs in a Selected Group of Secondary Schools of the State of Pennsylvania for 1957-1958" (unpublished Ed. D. dissertation, Temple University, 1961).

[13] Gertrude Mary Miller, "A Synthesis of Research Findings and Thought Pertaining to Office Practice Instruction" (Vols. I and II) (unpublished Ed. D. dissertation, Indiana University, 1961).

Studies Dealing with Employment Opportunities and Needs

Employment opportunities and needs were investigated by Erwin, Weeks, Williams, and LeDonne. The purpose of Erwin's study was to determine the nature and amount of preemployment education and training desirable to meet the employment needs in selected businesses and industries in east central Illinois.[15] High school business education offerings in office occupations were included with vocational programs in distribution and industrial arts, and trade and industrial education. Data collected by survey forms completed by industries indicated that a majority of the industries preferred organized school preparation of office workers and desired high school preparation for job entry. Erwin found that employers expected their prospective employees to have had a sound general education in English, writing, speaking, science, and mathematics, as well as to have learned a skill. He also found that the area schools could improve their programs of study to adapt to the needs of industry, and that industry and education can work together to determine needed skills and knowledges.

Weeks investigated whether business programs in office occupations of the Syracuse public schools were meeting the expressed needs of the employing businesses and industries of the Syracuse, New York area.[16] The study attempted to determine: (1) occupational opportunities and entrance requirements for beginning office workers; (2) selection procedures; (3) knowledges, skills, and abilities required for success; (4) characteristics and traits required for success; (5) promotional possibilities; and (6) frequency of use of machines and equipment. Businesses were asked to state the various jobs for which they believed schools should prepare potential workers, and they were asked for comments for improving business programs. A questionnaire was sent to businesses which were selected from a list of major market employers compiled by the New York State Employment Service. Information was obtained from beginning office workers in 14 job classifications.

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[14] Lena V. Burrell Prewitt, "A Comprehensive Analysis, Classification, and Synthesis of Research Findings and Thought in the Area of Office Practice Instruction 1951-1959" (Vols. I and II) (unpublished Ed. D. dissertation, Indiana University, 1961).

[15] Clifford Hubert Erwin, "An Investigation of Business and Industrial Employment Needs in Relation to Educational and Vocational Preparation in Selected Areas of Illinois" (unpublished Ed. D. dissertation, Indiana University, 1963).

[16] Edwin E. Weeks, Jr., "A Study of the Express Employment Needs of Employers in the Syracuse Metropolitan Areas with Implications for the Office Occupations Program in the Syracuse Public Schools" (unpublished Ed. D. dissertation, Syracuse University, 1961).

It was found that the greatest job opportunities existed for the stenographer, typist, general clerk, and accounting clerk. These four jobs were also the ones with the greatest predicted increase in number. High school was the most common educational level held by office employees and 95 percent of employers stated that high school was a minimum educational requirement for office employment. Minimum acceptable standards for performance were biggest for typing, dictation, and arithmetic fundamentals. The traits most needed by beginning workers were integrity, dependability, accuracy, attention, and cooperation. Following directions, spelling accurately, and concentrating on work were considered most essential knowledges, skills, and abilities. Weeks reported the businessmen felt that office training should be provided by the secondary school.

Williams' study was undertaken to determine how well the nonagricultural curriculum of secondary schools of the South was preparing graduates for initial employment.[17] The investigation attempted to reveal the occupational areas of greatest demand for noncollege-bound high school graduates, and the extent to which the high schools were preparing graduates for placement in the occupations so identified. Regional offices of the United States Employment Service for the twelve participating states assumed responsiblity for the distribution and collection of the employment opportunities questionnaire prepared for and completed by businesses. A questionnaire was sent to a random sample of all state-accredited high schools in the twelve states.

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[17] Billy Joe Williams, "A Comparison of Employment Opportunities and High School Curriculum Offerings in the South" (unpublished Ed. D. dissertation, George Peabody College for Teachers, 1962).

According to the findings, the best employment opportunities for high school graduates within the South were in clerical and sales occupations. However, some of the South's vocational education programs were not based upon vocational opportunities available.

LeDonne's study was made to determine the extent to which the public secondary schools of Delaware County were preparing graduates for jobs in businesses and industries in the area.[18] The researcher inventoried personnel in business and industry, and high school principals. Among the many conclusions, based on the findings, were that there was an increasing demand for graduates trained in the use of automated business equipment, and the breadth of offerings in the commercial field was not adequate for some jobs. LeDonne felt that school placement services were needed, and that more use could be made of the cooperative work program. The investigator also reported that much current equipment being used in business was not in the schools, and he noted that there was disagreement between the principals and businessmen as to the adequacy of present school business education programs.

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[18] Peter Anthony LeDonne, "A Study of the Job Requirements of Business and Industries in the Greater Delaware Valley Area Employing Between 100-299 Persons and the Relationship of these Requirements to Curricular Offerings in Delaware County Senior High Schools" (unpublished Ed. D. dissertation, Temple University, 1964).

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CHAPTER III

- FINDINGS -
MAJOR EMPLOYERS OF BEGINNING OFFICE WORKERS AND WHO THEY EMPLOY

The discussion in this chapter centers around the questions: Who are the major employers of beginning office workers and who are the workers these firms employ? Most of this chapter is devoted to describing the beginning office worker in terms of his age, experience, training, office attitudes, and related characteristics.

Major Employers Identified in the Study

As will be recalled from the discussion in the first chapter, Phase I of the study was designed to determine the business firms in the State of Connecticut that employ a number of persons embarking upon office careers; i.e., firms that employ workers having no more than a high school education and who can claim limited or no previous full-time office experience. The specific procedure followed in determining these major employers is set forth in Chapter I. All 722 Connecticut-based business firms as listed in the Dun and Bradstreet Million Dollar Directory and the Dun and Bradstreet Middle Market Directory, 392 firms listed in the Dun and Bradstreet Reference Book, 104 businesses identified or suggested by the Connecticut State Employment Service, and 8 other firms not otherwise identified were contacted, for a total of 1,226 business firms. Replies providing the information requested were received from 824 of the business firms, or 67 percent of all firms contacted. Thus two-thirds of the firms cooperated in the first phase of the study by providing basic information on company size, type of business, number of all employees, number of office employees, and the number of beginning office workers employed for the six-month period identified.

By considering the information provided by the companies in this manner, 130 business firms were identified as major employers on the basis of the fact that within the six-month period these firms had employed five or more beginning office workers as defined in the study. It was the employees of the 130 firms in which the research team was particularly interested. As earlier discussed, individually typed letters were addressed to the appropriate official identified on the Reply Sheet completed and returned by the company. The letter requested the cooperation of the company in permitting one or more interviewers to come to the offices of the firm and interview its beginning office workers. A total of 85 of the 130 companies, or 65 percent of the companies whose cooperation in the second phase of the study was requested, granted this permission; and the beginning office workers in these companies were interviewed. A listing of the companies cooperating in Phase II of the study appears as Appendix A.

General Description of Cooperating Major Employers

Although specific information relating to the location, type of business, and related aspects of the companies cooperating in the study will be treated in more specific detail later, some general observations relating to the companies may be of interest here.

For purposes of the study, the state was divided into six geographical regions (see Appendix A). As might be expected, the greatest numbers of major employers cooperating in the study were located in the metropolitan areas of the state. The north central section (Region V) of the state, which includes the cities of Hartford and New Britain, contained the greatest number of major employers. The south central section (Region II), in which are located the cities of New Haven and Waterbury, and the southwest section (Region I) contained the next greatest numbers of cooperating major employers. The other three sections of the state contained very few firms identified as major employers.

Approximately a third (34 percent) of the major employers cooperating in the study and who provided the information requested, had over a thousand employees, and more than a fourth (29 percent) were in the 100-500 employee classification. The remaining 37 percent of the firms were about equally divided between those that had fewer than 100 employees and those that had from 500-1000 employees. Nearly 60 percent of the cooperating firms furnishing complete information had over 100 office employees at the first-line supervisor level or below, whereas only 3 percent were firms that had 10 or fewer of such employees. Two out of three of the companies providing the information employed, between June 1, 1966 through the end of the year, ten or fewer beginning office workers, as defined in the study; though 1 in 5 were large employers who during this period took on 20 or more such workers.

Another item that might be of interest relates to the number of beginning office workers needed annually. The cooperating firms provided figures that show a very wide range of need. One company indicated that ordinarily it could use only two new workers a year, whereas another felt it would need 755 new workers in job entry positions. The median number of new office workers required to fill job entry positions, however, was 13.5. It must be emphasized that these figures are based only on company estimates and that some companies who cooperated in other ways in the study were not in a position to provide this type of information as requested.

Before presenting more specific information relating directly to the subjects interviewed, it may be of some value to present here some general observations based on conversation with the Personnel people in the companies in which the interviews were held. No attempt has been made to quantify this information and present it in tabulated form. Nevertheless a general report of these observations as presented in the following paragraphs should contribute to total understanding of the research project.

Continuing Opportunities in Office Entry Jobs

It is often heard that relatively low level office entry clerical jobs are being rapidly absorbed, merged, eliminated, or otherwise changed. When the question was raised relative to the continuing nature or permanency of the current office job entry positions, it was learned that more than 95 percent of the entry jobs in the company are to remain, at least for the next few years, essentially as they now exist and with relatively little change in the requirements of the job.

Another observation of interest centers around the fact that very few of the companies provide the beginning office employees with any type of specialized or company training programs other than on-the-job training. In the great majority of cases, beginning office workers are put right to work under the guidance and supervision of a first-line supervisor who is charged with the responsibility of providing the new worker with an understanding of the job and an orientation to that job. In a few cases the new worker is provided with a general orientation to the company before assignment to a job, and opportunities are provided for a worker to upgrade his skills and other qualifications through specialized company courses and company-subsidized training provided in specialized schools or other educational institutions. Few companies, however, assigned the new worker to further training before putting him in a job entry position.

Sources and Selection of Office Employees

The need for qualified clerical workers to man the office job entry positions was emphasized over and over again by the Personnel Directors with whom the researchers discussed the matter. Particularly in those companies that employ substantial numbers of beginning office workers annually, active recruitment programs to attract high school graduates are conducted. Some companies maintain close contact with the high schools in the geographical area in which they are located and even maintain recruitment programs in these high schools. More companies indicated the high school as the major source of personnel for the beginning office positions than any other one source. A number of companies use the services of the Connecticut State Employment Office and of private employment agencies, and identified these as major sources for office help. However, they pointed out that in the main these two are better sources for more experienced office help than for persons interested in filling office job entry positions. Many companies use the classified advertisement in daily newspapers and some even purchase newspaper display advertisements to attract beginning office workers to their firms. A surprising number of firms indicated that their best source of help is the walk-in--the person who knows the company and feels she would like to work there. Some companies cooperate with others who are in need of clerical workers by referring employees they no longer need to other firms who need such workers. An interesting item that came to light was that some companies very much prefer to employ workers who are related to or friends of their own successful employees. In some instances, firms offer financial inducements to their employees who recommend a friend or relative for employment. If the person recommended is employed and remains on the job for a specified period of time, the employee making the original recommendation is rewarded financially.

Although there is and apparently will continue to be a great need for workers in low level office positions, not everyone who applies is accepted. Application forms made out by office job applicants are examined carefully and in almost all cases personal interviews were held. Although character references are often required by the firms, relatively little attention is paid to them since, as the Personnel people pointed out to the research team, practically no job applicant would give the name of a person who he believes will not recommend him highly. A number of companies, but by no means a majority, do check with the school concerning the training and ability of the applicant. Some firms check the retail credit report of job applicants when that is possible.

A number of companies, particularly the larger ones, require applicants for beginning office jobs to take and achieve minimum scores on at least one or more tests. The main test used is one of general aptitude. Others include company-designed straight-copy typing tests, dictation tests, clerical aptitude tests, facility with numbers tests, and, in a very few cases, spelling and business-machine operation tests.

It seems, then, that the business firms of the state who are the major employers of beginning office workers are interested in attracting to and selecting for their firms the best people available to fill the office entry positions.

The Beginning Office Workers - Who They Are

Who are the people to whom the business community looks to fill the office job entry positions and to carry on the work of the office? The following sections report the findings that may assist the reader to gain some understanding of the newcomers to the business office.

Age, Sex, Region, and Related Aspects

As indicated by the figures appearing in Table 1, nearly two-thirds of the 522 employees interviewed in job entry positions fall in the 18 and 19 year-old age group, and over 90 percent of such workers are under twenty-two years of age. The mean age of all beginning employees interviewed is 19.7 years, with a

TABLE 1

BEGINNING OFFICE WORKERS INTERVIEWED BY AGE, SEX, AND MARITAL STATUS

Classification	Number	Percent of All Employees Interviewed
Age at Time of Interview		
16 and 17	2	.3
18 and 19	344	65.9
20 and 21	136	26.1
over 21	40	7.7
Total	522	100.0
Sex		
Male	23	4.4
Female	499	95.6
Total	522	100.0
Marital Status		
Single	473	90.6
Married	49	9.4
Total	522	100.0

NOTE: The mean age of all beginning employees interviewed was 19.7 years, with a standard deviation from the mean of 1.9 years.

standard deviation from the mean of 1.9 years. The virtual monopoly that the female sex has upon the office entry jobs is indicated by the fact that 96 percent of the subjects are of that sex. Slightly more than 9 out of 10 of entry job holders are not married. It seems apparent, then, that the typical beginning office worker as defined in the study is 18 or 19 years of age, female, and single. This is probably accounted for by the fact that young women gravitate toward the business office after they graduate from high school for at least a brief business career prior to marriage.

In a preceding section mention was made of the fact that, for purposes of this study, the State of Connecticut was divided into six geographical areas. At that time, some general statements were made relative to the location of business firms who cooperated in Phase II of the study. The numbers and percentages of beginning office workers interviewed in cooperating firms are set forth in Table 2. The greatest number of subjects interviewed were those in the north central region which provided 215 subjects or 41 percent of the total of 522 workers interviewed. The next greatest number and percent of workers were those of the south central region (170 employees or 33 percent of the total), and the south west region (90 employees or 17 percent of the total). Relatively few beginning office workers were identified and interviewed from other areas of the state. Thus, more than 90 percent of the subjects included in the study worked in those regions in which are located the major cities of the state--Hartford, New Britain, New Haven, Bridgeport, Waterbury, and Danbury.

Not only did the subjects represent different geographical regions, but they also represented different types of businesses. As can be learned from the figures presented in Table 3, 40 percent or 4 out of 10 of the subjects worked in manufacturing establishments. The other two major types of business employing the beginning office workers were insurance (25 percent of all interviewees) and finance and real estate (22 percent). Thus the fields of

TABLE 2

BEGINNING OFFICE WORKERS INTERVIEWED, BY GEOGRAPHICAL REGION IN WHICH EMPLOYED

Region	Number	Percent of All Employees Interviewed
Region I, South West	90	17.2
Region II, South Central	170	32.6
Region III, South East	31	5.9
Region IV, North East	10	1.9
Region V, North Central	215	41.2
Region VI, North West	6	1.1
All Regions	522	99.9*

*Percentages are rounded to the first place beyond the decimal. Minor deviations from 100 percent are accounted for in the rounding process.

manufacturing, insurance, finance and real estate seem to provide the greatest number of beginning job opportunities in the private business sector of the state of Connecticut. This may be accounted for, in part at least, by the service nature of insurance, finance and related businesses which by their very nature require much clerical help.

Job Families to Which Workers Assigned

To what types of jobs are these beginning office workers, subjects of this study, assigned? It was found that in the main the workers fall into five general office job entry classifications: clerical, machine operation, stenographic and secretarial, bookkeeping and computational, and customer contact. The specific job included within each of these will be dealt with

TABLE 3

BEGINNING OFFICE WORKERS INTERVIEWED BY TYPE OF BUSINESS IN WHICH EMPLOYED

Type of Business	Number	Percent of All Employees Interviewed
Manufacturing	210	40.2
Insurance	131	25.1
Finance and Real Estate	112	21.5
Public Utilities	52	10.0
Wholesale and Retail Trade	11	2.1
Service Businesses	6	1.2
Agriculture	0	.0
Contract Construction	0	.0
Mining Industries	0	.0
Total	522	100.1

in the next chapter. It can be observed from the figures shown in Table 4 that of the 522 subjects interviewed, 321 or 62 percent were in the clerical job family. One of the facts that might account for this abnormally high percentage of entry jobs falling within a single job family is that some companies have only a single entry job--that of clerk or clerk-typist, and any person seeking a first office job with those companies enter through this position. The number of workers identified and interviewed in the stenographic and secretarial, bookkeeping and computational, and customer contact job families (9, 9, and 5 percent respectively) appears to be much less than one might expect to find in beginning office jobs. When a general question regarding

TABLE 4

BEGINNING OFFICE WORKERS INTERVIEWED
BY OCCUPATIONAL JOB FAMILY

Job Family	Number	Percent of All Employees Interviewed
Clerical (Jobs B, D, E, H, O, P)	321	61.5
Machine Operation (Jobs C, F, J, X)	84	16.1
Stenographic and Secretarial (Jobs L, M, G)	47	9.0
Bookkeeping and Computational (Jobs A, I, R)	45	8.6
Customer Contact (Jobs K, N, Q)	25	4.8
Total	522	100.0

this was raised with the companies, it was learned that many persons seeking or holding these types of jobs tend to be the more experienced personnel or those who have had some post-high school training.

Office Experience of the Workers Interviewed

Inasmuch as this study is concerned with the beginning office worker, it was deemed important to restrict the subjects to those who have had no or limited business experience but are now holding an entry job. As will be observed from the figures appearing in Table 5, two-thirds of the employees interviewed had had no office work experience prior to accepting a job with the present company, and three-fourths had held no job with their present company other than the one they now hold. The remaining one-third and one-fourth respectively had some full-, part-time or summer office work experience.

TABLE 5

OFFICE EXPERIENCE OF BEGINNING WORKERS PRIOR TO PRESENT JOB

Type of Experience	Number	Percent of All Employees Interviewed
Full-, part-time, or summer experience with another company	176	33.7
No work experience with a previous company	346	66.3
Total	522	100.0
Full-, part-time, or summer experience with present company but prior to present job	132	25.4
No work experience with present company prior to present job	390	74.6
Total	522	100.0

The mean number of months of full-, part-time, or summer office work experience with companies other than the one for which they are currently working was 3.53, with a very high standard deviation. The mean number of months (full-, part-time, or summer) the subjects had worked at their present company at time of interview was 7.75, with a standard deviation from the mean of 5.44. When total office experience of all employees is considered, the mean number of months was computed to be 11.28, with a standard deviation from the mean of 9.33.

It is doubtful, however, that complete confidence should be placed in the above figures reporting mathematical means and deviations therefrom. Although the curve was not plotted, it is possible that the data were not continuous or linear, but rather it was curvilinear or perhaps even U-shaped in nature. In view of this, other common measures are also reported here for the benefit of the reader. Since whole numbers of months of experience were used in the calculations (example: at least 9 months, but not 10), no fractions are used in the figures set forth below.

The mid-point and modal number of months that the beginning office workers interviewed performed office work with a previous company were zero (0), with an interquartile range of less than 2 months, and a 25-75 centile range of 0 to 3 months. The mid-point and modal number of months of office experience with the present company that was possessed by the employees at time of interview were 7 months, with an interquartile range of 7 months, and a 25-75 centile range of 5 to 9 months.

Consideration of all office work experience of the beginning employees revealed a mid-point of 5 months of experience, a mode of 7 months, with an interquartile range of 4 months and a 25-75 centile range of 0-8 months. These figures, taken as a whole, give evidence of the very limited office work experience of the beginning employees interviewed. It would seem, therefore, that the subjects included in the study are those the study was designed to include--beginning office workers in Connecticut business firms.

Assistance Given Employees in Obtaining Job with Present Company

One of the major problems of job placement is matching those who want a job in a business office with those who seek and need office help. It would seem to be of some importance that a young person interested in embarking on a business career be given some assistance in obtaining an entry job. The question as to whose responsibility the offering of this assistance is, has been the subject of much debate.

Judging from the figures displayed in Table 6, it would seem that 4 out of 10 of the beginning office workers interviewed give credit to a friend or

TABLE 6

BEST SOURCE OF ASSISTANCE TO BEGINNING EMPLOYEES IN OBTAINING JOB WITH PRESENT COMPANY

Source	Number	Percent of All Employees Interviewed
Friend or Relative	215	41.2
Walk-in	104	19.9
High School	65	12.5
Newspaper Advertisement	42	8.0
Connecticut State Employment Service	39	7.5
Private Employment Agency	35	6.7
Other	22	4.2
Total	522	100.0

relative in helping them obtain their present job. One out of five secured the job strictly on her own, apparently without assistance. The high school was given credit as the best source of assistance by 12.5 percent or 1 out of 8 of the subjects in the study. It is somewhat surprising that relatively few (only 8 percent) relied upon newspaper advertisements in securing the present position.

Of those interviewees who indicated that the high school was the best source of assistance to them in obtaining their present position, nearly three-fifths, or 59 percent (see Table 7) gave their business teacher the credit for giving the most help in landing the job; and slightly over a quarter named the guidance counselor as the one giving the most help. It must be borne in mind, however, that these are based only upon the 65 responses of the workers who had indicated the high school as the best source of assistance.

TABLE 7

BEST SOURCE OF ASSISTANCE WITHIN THE HIGH SCHOOL TO BEGINNING EMPLOYEES IN OBTAINING JOB WITH PRESENT COMPANY

Source	Number	Percent of Responses
Business Teacher	38	58.5
Guidance Counselor	18	27.7
Principal	0	0.0
Non-business Teacher	0	0.0
Other	9	13.8
Total	65	100.0

Workers Knowledge of Advancement Opportunities

It might be thought that most young people beginning office careers would be interested in the opportunities provided by their present jobs for advancement to positions of more responsibility and therefore of more pay. Likewise, it might be thought that the business firms for whom these young people work would make an effort to acquaint their employees with what could lie ahead for them if they succeed in their present job.

The fact is, however, (see Table 8) that more than half (53 percent) of the subjects in this study claimed no knowledge of advancement opportunities, and another 7 percent indicated only a general notion of such opportunities. A third, though, did have a knowledge of the specific job or jobs to which advancement from the entry job was possible.

The lack of knowledge about or possibly even interest in advancement opportunity may be attributed to the intention on the part of many of the subjects to retain the job for only the interim period between high school and

TABLE 8

OPINION OF BEGINNING OFFICE WORKERS RELATIVE TO ADVANCEMENT OPPORTUNITIES

Opinion	Number	Percent of All Employees Interviewed
Has no knowledge of advancement opportunities	279	53.4
Knows specific jobs to which advancement possible	175	33.5
Has only a general notion of advancement opportunities	37	7.1
Believes there is no opportunity for advancement	16	3.1
No response	15	2.9
Total	522	100.0

marriage. On the other hand, it is possible that the lack of knowledge of advancement opportunity may be one of the causes of the high turnover in these types of office positions.

Of the subjects who had indicated either a specific knowledge or general notion of promotion opportunities, 6 out of 10, or 59 percent, as indicated by the figures shown in Table 9, felt they are qualified for promotion without further training or experience. The other 4 out of 10 either are unsure of the adequacy of the present qualifications or felt they are not presently qualified for promotion.

Those beginning office employees who felt they are not presently qualified for advancement, as will be seen from Table 10, cited two primary additional qualifications needed. Additional education and training received 45 percent of the mentions (see Table 10), and the additional qualification of more

Table 9

OPINION OF BEGINNING OFFICE WORKERS RELATIVE TO WHETHER PRESENT QUALIFICATIONS ARE ADEQUATE FOR ADVANCEMENT

Response	Number	Percent*
Present qualifications are adequate	124	58.5
Present qualifications not adequate	73	34.4
Not sure of adequacy of present qualifications or no response	15	7.1
Total	212	100.0

*Based on number of employees previously indicating either a general or specific knowledge of promotion opportunities from present job.

experience on the present job was mentioned next most frequently (39 percent of the mentions). Very few mentioned proficiency tests given by the companies as barriers to their promotion.

Last High School Attended by the Workers Interviewed

As might be expected on the basis of the facts earlier reported with respect to their ages at time of interview, most of the subjects were only lately out of high school. Of the over 500 employees interviewed, slightly more than three-fourths (75.5 percent) were 1966 high school graduates, and another 12 percent received their diplomas in 1965. It is of interest to note, also, that only 4 beginning workers, representing less than 1 percent of all the subjects, did not graduate from high school.

Most of the subjects in the study obtained their high school education in or near the geographical region in which they are presently working. As can

TABLE 10

OPINIONS OF BEGINNING OFFICE WORKERS RELATIVE TO ADDITIONAL QUALIFICATIONS NEEDED FOR ADVANCEMENT

Qualifications Needed	Number	Percent*
Additional education and training	41	44.6
More experience on present job	36	39.1
Self-improvement of present skills	12	13.0
Take and pass proficiency tests given by the company	2	2.2
Other	1	1.1
Total	92	100.0

*Based on total number of mentions. The number of interviewees responding to the item was 76.

be observed from Table 11, 41 percent of 2 out of 5 workers obtained their schooling from schools located in Region V, and 33 percent or 1 out of 3 obtained their schooling in Region II. It will be recalled that these are also the two regions containing the greatest number of companies cooperating in the study and also containing the greatest number of beginning office workers interviewed.

Most of the subjects (81 percent) attended public high schools in the state of Connecticut during their final school years. However, 9 percent attended private schools and approximately 8 percent attended out-of-state schools. In the main, then, the beginning office workers as defined in the study appear to be high school graduates who received their education in the public high schools in the state of Connecticut.

TABLE 11

LAST TYPE OF HIGH SCHOOL ATTENDED BY OFFICE WORKERS
BY REGION IN WHICH SCHOOL IS LOCATED

Region of School	Total		Public School		Private School		Out-of-State School		No School Given	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
I	90	17.2	69	13.2	4	.7	13	2.5	4	.7
II	170	32.6	137	26.2	21	4.0	10	1.9	2	.4
III	31	5.9	26	4.9	3	.6	2	.4	0	.0
IV	10	1.9	10	1.9	0	.0	0	.0	0	.0
V	215	41.2	177	33.9	18	3.4	14	2.7	6	1.1
VI	6	1.1	5	1.0	1	.2	0	.0	0	.0
Total	522	99.9	424	81.1	47	8.9	39	7.5	12	2.2

Types and Purposes of Post-high School Training

Before considering further certain aspects of the high school education of the subjects included in this investigation, it might be of some interest to take a look at the type and nature of post-high school work taken by or planned to be taken by the beginning office employees interviewed.

Only one in four (25 percent) of the employees interviewed had taken some, though very limited, training beyond their high school work. This work was taken (as indicated here in descending order of importance based on frequency of responses) in adult education programs, four-year colleges, business schools, junior or community colleges, and company training programs. Very few interviewees attempted programs in more than one of any of the above. Other types of beyond-high school training include programs in nursing schools, art institutes, and handicraft, technical, and correspondence schools.

Of the 129 employees interviewed who have taken training beyond the high school, only two courses of study were pursued by more than 10 percent. These were "business training," taken by over half (54 percent), and "general education" courses, taken by approximately a fourth (26 percent). Typewriting was, as might be expected, the most frequently selected specific business course,. Included in general education were English, mathematics, psychology, art, foreign languages, and related courses.

In the main, the employees who took work beyond the high school had rather specific purposes in mind for doing so. More than a third (37 percent) had in mind preparation for a job, though over a quarter (27 percent) just wanted additional background in a subject of interest to them or wanted to develop some abilities for personal use. Nearly another quarter (24 percent) had in mind increasing their proficiency on their present job. The remaining 12 percent had little or only vague ideas regarding the purpose of the post-high school work they had taken.

The final finding related to post-high education is that most of the subjects included in the study have plans for taking additional formal training. Of the more than 500 beginning office workers interviewed, 42 percent indicated very definitely that they plan to pursue further training, whereas 18 percent thought that they might. The remaining 40 percent have no intention of taking additional formal training.

It would seem, then, in view of the facts presented in the preceding paragraphs, that the beginning office workers included in the study have had limited or no post-high school training, but that a substantial majority plan to take additional formal training, most probably to improve their vocational or general knowledges and abilities.

The Beginning Office Workers - Their High School Preparation

The facts that the great majority of beginning office workers interviewed had graduated from high school and that some few had taken or still plan to take some post-secondary work have already been pointed out. Perhaps at this time it is appropriate to discuss the general question: What was the curriculum followed and courses taken in high school, and how well do the workers feel their high school program prepared them for success in their job entry position?

Curriculum and Courses and Their Value

As indicated by the figures displayed in Table 12, about half (49 percent) of the workers included in the study followed the business curriculum in high school, and another 16 percent followed the college-business program. The latter curriculum emphasizes academic subjects but permits the student to take a limited number of business courses. Thus approximately two-thirds of the beginning employees have had high school business courses. Most of the other employees studied followed the college preparatory curriculum and had little or no business training as part of their high school education.

What business courses were taken by the employees interviewed? An inspection of Table 13 will reveal that four courses were taken by a third or more of the workers. These were typewriting (taken by 83 percent), bookkeeping (58 percent), shorthand (46 percent), and business arithmetic (36 percent). Of the 435 workers who took typewriting, nearly a quarter (23 percent) took the course for only two semesters, though half had four semesters of instruction. Of the over 300 workers who took bookkeeping, three out of five were enrolled for only two semesters of the course and about a third took the course four semesters.

Those courses taken by fewer than 10 percent of the workers interviewed include salesmanship and recordkeeping (each taken by 7 percent), cooperative

TABLE 12

HIGH SCHOOL CURRICULUM FOLLOWED BY BEGINNING OFFICE WORKERS

Curriculum	Number	Percent of All Employees Interviewed
Business	256	49.0
College-Business	83	15.9
College Preparatory	115	22.0
General	32	6.1
Other	36	6.9
Total	522	99.9

office training, consumer education, and economic geography (each taken by 6 percent), business principles and organization (5 percent), and advertising (3 percent).

It is encouraging to note, in view of the earlier and often voiced complaints of educators concerning the lack of enrollment in economics courses, that at least 1 in 5 of the workers interviewed (21 percent) had taken at least one semester of economics and that 6 percent had taken consumer economics. Though not high, these percentages are considerably in excess of the 5 percent figures commonly cited as a representative percent of students who at time of their graduation have taken a course in economics.

Perhaps it should be mentioned that certain inaccuracies in worker responses may be noted. For example, it is probable that the 49 interviewees who reported having taken business English for over four semesters were undoubtedly thinking of academic English rather than of the English course taught in the business department. Although a few misinterpretations of this nature were observed and

TABLE 13

BUSINESS COURSES TAKEN IN HIGH SCHOOL BY BEGINNING OFFICE WORKERS
BY NUMBER OF SEMESTERS TAKEN

Course	Total		Number of Semesters Taken														
			1 Semester			2 Semesters			3 Semesters			4 Semesters			Over 4 Semesters		
	No.	%N	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n
Typewriting	435	83.3	15	2.9	3.4	99	19.0	22.8	5	1.0	1.1	216	41.4	49.7	100	19.2	23.0
Bookkeeping	303	58.0	9	1.7	3.0	178	34.1	58.7	5	1.0	1.7	92	17.6	30.4	19	3.6	6.3
Shorthand	240	46.0	15	2.9	6.3	97	18.6	40.4				123	23.6	51.3	5	1.0	2.1
Business Arithmetic	186	35.6	10	1.9	5.4	131	25.1	70.4	1	0.2	0.5	40	7.7	21.5	4	0.8	2.2
Clerical Office Practice	159	30.4	12	2.3	7.5	131	25.1	82.4				14	2.7	8.8	2	0.4	1.3
General Business	156	29.9	4	0.8	2.6	131	25.1	84.0				14	2.7	9.0	7	1.3	4.5
Office Machines	149	28.5	27	5.2	18.1	116	22.2	77.9	1	0.2	0.7	5	1.0	3.4			
Business Law	125	23.9	47	9.0	37.6	78	14.9	62.4									
Secretarial Office Practice	122	23.4	16	3.1	13.1	88	16.9	72.1				16	3.1	13.1	2	0.4	1.6
Economics	110	21.1	31	5.9	28.2	75	14.4	68.2	1	0.2	0.9	3	0.6	2.7			
Business English	106	20.3	3	0.6	2.8	36	6.9	34.0				18	3.4	17.0	49	9.4	46.2
Transcription	83	15.9	3	0.6	3.6	61	11.7	73.5				17	3.3	20.5	2	0.4	2.4
Recordkeeping	38	7.3	6	1.1	15.8	32	6.1	84.2									
Salesmanship	38	7.3	19	3.6	50.0	15	2.9	39.5				3	0.6	7.9	1	0.2	2.6
Cooperative Office Training	34	6.5	5	1.0	14.7	24	4.6	70.6				3	0.6	8.9	2	0.4	5.9
Consumer Education	33	6.3	14	2.7	42.4	17	3.3	51.5				2	0.4	6.1			
Economic Geography	33	6.3	3	0.6	9.1	30	5.7	90.9									
Business Organization	26	5.0	9	1.7	34.6	16	3.1	61.5							1	0.2	3.8
Others	19	3.6	3	0.6	15.7	7	1.3	36.8	2	0.4	10.5	4	0.8	21.5	3	0.6	15.7
Advertising	16	3.1	4	0.8	25.0	9	1.7	56.3	1	0.2	6.3	2	0.4	12.5			

NOTE: This table should be read as follows: Of the 522 beginning office workers interviewed, 435 or 83.3 percent, took typewriting in high school. Of the 435 who took typewriting, 15 took only one semester of the course. Those 15 represented 2.9 percent of all 522 employees interviewed, and 3.4 percent of all who took typewriting.

NOTE: As illustrated in the preceding note, in all tables throughout this report unless otherwise stated, large N indicates the total number of employees interviewed. Small n denotes the total number indicated on the horizontal line under the Total column.

not caught at time of interview, it seemed to the interviewers that the workers were able to recall rather accurately the courses they had taken in high school.

Business Courses Beginning Workers Find Help Them Most or Least

Determining what portion of a person's education helped him the most or the least is difficult under any conditions. This is true primarily because very few persons, at any given time, are even in a position to offer a valid statement. What courses one finds of most help or of least help depends upon the framework within which the question is asked, and the answer would apply only within that framework. Thus the investigators conducting the present study were interested in determining worker perceptions concerning the courses that they took in high school that have been of the greatest or the least benefit to them on the job they are now doing--a beginning office job. The reader must be careful to consider the findings only in this setting and not to generalize these findings by applying them in other and perhaps inappropriate situations. Thus, the nature of the worker's assignment would have, to a very substantial degree, a great bearing on the courses he has taken that prove to be of most benefit. Should the worker be shifted to another position calling for the application of different knowledges and skills, it is probable that there would be a considerable change in how the worker would view the courses he took in high school.

Be this as it may, two courses appear to stand out from all the rest in terms of worker perceptions as to those courses which were of most benefit to them. Of the 435 employees who took typewriting in high school, 277 or 64 percent rated the course as being of greatest benefit to them in their work (see Table 14). Over half (53 percent) or 84 of the 159 employees who took clerical office practice gave that course a top rating. It is interesting to note that bookkeeping and shorthand did not receive top ratings by substantial numbers of the office workers who took them, quite probably because relatively few beginning office jobs identified in the study require the use of the abilities

TABLE 14

BUSINESS COURSES BEGINNING OFFICE WORKERS TOOK IN HIGH SCHOOL THAT WERE FOUND MOST HELPFUL TO THEM ON THE JOB

Course	Number Taking Course	Number High Ratings	Percent High Ratings
Typewriting	435	277	63.7
Clerical Office Practice	159	84	52.8
Office Machines	149	55	36.9
Secretarial Office Practice	122	41	33.6
Business English	106	34	32.1
Business Arithmetic	186	56	30.1
Cooperative Office Training	34	10	29.4
Recordkeeping	38	10	26.3

NOTE: This table should be read as follows: Of the 159 workers who took clerical office practice in high school, 84 or 52.8 percent gave it a top rating identifying it as a most helpful course in terms of their present job. (No courses receiving top ratings by fewer than 25 percent of the workers who took the course are included in the table.)

these two courses develop.

The courses which workers perceive as being the least helpful to them in their beginning office jobs are largely those of a basic business nature. Again a note of warning must be sounded. As will be observed from the findings reported in Chapters IV and V, the tasks assigned to beginning office workers tend to be somewhat routinized and highly clerical in nature calling mainly for certain basic skills and relatively few broader understandings. Thus, workers in job entry positions may not see the value of those high school business courses which develop other types of knowledges, skills, and understandings which may be the very ones they will need if they are to advance to positions of greater responsibility.

Perhaps, then, these thoughts might be kept in mind when observing from the figures appearing in Table 15 the courses identified as being the least value by those workers who have taken them. The courses seen in this light are the following: consumer education (rated as least valuable by 25 or 76 percent of the workers who had taken them), advertising (12 or 75 percent), economic geography (23 or 70 percent), and the like. It should also be noted that although the percentages are high, the numbers of persons who took the courses are quite limited. Again it should be emphasized that though the figures presented here may throw some light upon what beginning workers may or may not need in way of preparation to do the work they are assigned, great care should be exercised not to generalize the findings, particularly with respect to the least helpful courses, and apply them to all office jobs.

Non-Business Courses of Greatest Value to Workers on Their Jobs

An attempt was made to obtain some indication of the courses, other than business, which beginning workers believe enable them to develop those knowledges and abilities of greatest help to them on their jobs. Only three courses were identified by over 10 percent of the workers who had taken the courses. These were English grammar (identified as greatest help by 293 or 35 percent of all workers who took the course), general mathematics (222 or 26 percent), and English composition (104 or 12 percent).

It is of interest to take note of the consistency of response in that when given the opportunity to indicate those non-business courses the workers wish they had taken to prepare themselves better for their job, more than 9 in 10 (91 percent of the 522 employees interviewed) indicated that there is no course that they did not take that they wish they had taken. Only the taking of "more

TABLE 15

BUSINESS COURSES BEGINNING OFFICE WORKERS TOOK IN HIGH SCHOOL THAT WERE FOUND LEAST HELPFUL TO THEM ON THE JOB

Course	Number Taking Course	Number Low Ratings	Percent Low Ratings
Consumer Education	33	25	75.8
Advertising	16	12	75.0
Economic Geography	33	23	69.7
Salesmanship	38	26	68.4
Business Law	125	72	57.6
Economics	110	62	56.3
Transcription	83	45	54.2
Business Organization	26	13	50.0

NOTE: No courses receiving Least Helpful ratings by fewer than 50 percent of the workers who took the course are included in this table.

math" was mentioned by more than 2 percent of the subjects interviewed. The other suggestions were mentioned by 1 percent or fewer workers. It would seem, then, that the beginning office workers had included in their high school program those non-business courses which they perceived as being of the most help to them.

Knowledges and Abilities Workers Should Have Acquired

The researchers were interested in gaining some indication of the perceptions of beginning office workers with regard to the knowledges and abilities the workers need on the job that they should have gained in school but that they did not. More than 4 out of 10 (42 percent) of the 522 office workers indicated that there were no knowledges or abilities that they needed that they did not acquire in high school. More than 1 out of 5 (21 percent) did feel that they should have gained greater skill in the use of the common office machines. Other suggestions mentioned by more than 1 percent of the office workers are indicated below:

Typewriting	4.8
Greater ability to use telephone	3.8
Bookkeeping	3.6
More orientation to the business office	2.9
Greater ability to work with people	2.9
Some background in insurance	2.3
Some background in banking	1.9
Better understanding of technical terms	1.5
Broader knowledge of business processes	1.3
More knowledge of postal communication	1.1

It should be pointed out that the opportunity to gain the knowledges and abilities needed by every office worker might very well be already provided in the high schools, but that the workers who felt they did not get what they needed simply did not enroll in the appropriate courses. No attempt was made to determine whether the subjects included in the study, had they selected the proper courses, would have developed the knowledges or skills which they may feel are essential to their success on the job.

The workers' views as to what they learned during their high school education that should have been left to be learned on the job, are also of interest and are varied indeed. Nearly two-thirds, or 325 of the 522 workers interviewed, felt that there was nothing they learned in school that should have been left to be learned on the job. The knowledges and abilities indicated below are those that 1 percent or more of the workers felt should have been left to be learned on the job:

Use of specialized office machines	4.0
Filing	3.3
Office procedures	2.1
Letter set-up	1.7
Typing	1.7
Bookkeeping	1.5
Answering the phone	1.3
Company systems of bookkeeping	1.1

How Workers Would Change Their High School Programs

It is interesting to note the responses of workers as to the changes they would make in their programs now that they are on their jobs and thus in a position to note their educational deficiencies. Over a third (34 percent) of all beginning office workers interviewed would make no changes in their program if they were taking their high school work over again. However, nearly a quarter (23 percent) would take more business courses, whereas 16 percent would take more academic courses. Other ways in which 1 percent or more of the subjects included in the study would change their high school plans are indicated below:

Take shorthand	5.6
Take more mathematics	3.4
Take more typewriting	2.9
Take a language	2.7
Take bookkeeping	2.5
Study harder	2.5
Take more shorthand	2.5
Take office machines	1.3
Take more science	1.1
Take office practice	1.1

In the main, then, it would seem in view of the facts reported in the preceding paragraphs that the beginning office workers included in the study are rather well satisfied with the opportunities provided them in the high school to develop the kinds of knowledges and abilities that they feel they need to succeed in their initial jobs in the business office.

Change in Attitude Toward Business Office

The comment is often heard that students in school develop an unrealistic view of the business world and perhaps of the business office, and that sometimes the real world of business that they enter surprises or even shocks them. In order to obtain some indication as to whether this is true, the question was raised as to whether workers themselves felt their attitude or "feeling" toward the business world or office changed after they had entered it as compared with their attitude or feeling held when they were high school students.

Over a third (176 of the 522 employees interviewed, or 34 percent) indicated that, as they perceived it, there was no change in their attitude. On the basis of a subjective analysis of worker responses by the research team it was determined that of the 346 employees indicating a change of attitude or feeling, 185 or 54 percent, changed in a positive direction and that 67, or 19 percent, changed in a negative direction. The direction of change was not so clearly indicated in 94, or 27 percent of the cases. Thus, the majority of those reporting a change in attitude or feeling indicated, in effect, that upon entering the business world they observed it in a more favorable light than they had anticipated.

The change in the view toward the business office, essentially in the words or concepts in which the workers themselves expressed it, are given below. Only the views expressed by 1 percent or more of the 346 workers responding are presented.

Increased understanding and appreciation of the importance of the office	15.0
Office work more difficult than previously thought	10.7
Like the office and work of the office better	9.8
Work in the office much more interesting	7.8
People are different than expected	7.2
Work is less difficult than expected	6.9
Realize that there is more to an office than expected	5.2
Office is not as glamorous, exciting and challenging as earlier thought	4.9
Office is more informal than previously thought	4.6
Did not receive a realistic picture of the office in school	4.3

Less interesting than thought, dislike it more than thought	2.6
See a larger picture of business and the office now	2.3
Never thought much about business at all	2.3
Too busy all the time	1.7
Had a lot to learn on the job	1.7
Finds more rugged individualism in business than thought	1.4

No attempt was made to measure the intensity of change in attitude, therefore no observation can be made on the strength of the shift. However, from the data available, it appears that there is not the great gap between the school and the office, so far as an understanding and appreciation of the office is concerned, that some statements would lead us to believe.

CHAPTER IV

- FINDINGS -
THE WORK PERFORMED BY BEGINNING OFFICE EMPLOYEES

The preceding chapter has dealt with findings which describe the major employers of beginning office workers and the people who occupy office job entry positions. The present chapter sets forth findings relative to the work performed by beginning office workers. It seeks to answer the general question: What is the type of work assigned to beginning workers who enter the business office with little or no previous office experience and with little or no formal education beyond high school? Attention will also be given to such related aspects of the work these employees perform as the equipment they use and the environment within which they do their work.

The Jobs and Their Duties

One of the most difficult aspects of the present study centered around the attempt to identify the work of a beginning office worker by the title of the job he held. Although most workers had job titles that were designated by their employer, inspection revealed that in a number of cases the work actually performed was not the work ordinarily expected of a person holding that job title.

As will be seen through an examination of the interview guide appearing as Appendix B, the study sought to determine the specific tasks performed by workers and the job title held by such workers. Based on an analysis of office occupation literature and the latest (1965) Dictionary of Occupational Titles, separate interview guide sheets were set up (together with typical or suggestive job tasks) for 15 job titles. Four more job titles were added and one was deleted. It was expected that the beginning office workers could be classified well within these predetermined job classifications.

This was not the case, however. It was observed that there is little standardization in the job titles given by business firms to beginning office workers. Some businesses give the employee a job title that is descriptive of the duties he performs. Other businesses give their employees job titles that identify the department in which he works. Thus, a key-punch machine operator working in a data processing department may be called a data processing clerk. Still other firms designate titles in relation to the skill or experience level of the worker, such as B Clerk or Clerk II. Some firms give workers a very specific job title, while others give them a very broad title such as general clerk. A worker doing the same type of work may hold the title of machine operator in one firm and the title of addressograph operator in another firm. Finally, a few office workers in some firms have job titles that are not at all related to the duties, department, or competence level of the worker. Thus a person who is really a clerk may have the title of stenographer. As a result of these factors, it was observed that beginning office workers hold a very large number of different job titles.

In order to reduce the number of job titles to a manageable size, and to attempt to develop some basis for classifying, grouping, and matching job title with duties performed, a rather definite procedure was followed; and it is being reported here to aid the reader in interpreting the findings.

During the interview, the interviewer attempted to list the duties under the job title appearing on the interview guide that the interviewer thought was most appropriate. If none existed, he listed the title of the job and the tasks or duties of that job on the interview guide page entitled "Other Jobs."

When all interviewing was completed and all data were in, one of the researchers was assigned the specific duty of studying the completed guides to determine if the job duties had been listed under the appropriate job title.

A careful analysis of job patterns led to construction of the four new job classifications (customer service representative, machine operator, worksheet clerk, and coding clerk) and the dropping of one classification.

The researcher then proceeded to again inspect the job duties section of all completed interview guides and to assign all jobs held by employees interviewed, based on the work actually performed as revealed on the interview guide, from inappropriate job titles to more appropriate job titles. These latter are referred to hereinafter as "true job title."

Determining the true job title was a subjective and not always clear-cut task. Generally it was found that the office workers performed a wide variety of duties, many outside the set of prescribed duties of that job classification. The major criterion in the classification process was the nature or type of duty the worker performed and the approximate amount of time he devoted to performing it. If, for example, approximately one-half of a worker's tasks were of a bookkeeping nature and the remaining portion of his time was spent typing or sorting mail, he was classified in Job A (Accounting Clerk - Bookkeeper). The attempt was made to minimize classification errors by frequent reference to available job specifications and DOT descriptions.

Comparison of Company-Given Job Title with True Job Title

In the main, as indicated by the figures displayed in Table 16, there seemed to be rather substantial agreement between the job title held by the beginning workers interviewed and the work actually performed as suggested by the true job title. Particularly was this the case in Jobs F (Key-Punch Operator), G (Machine-Transcriber Typist), H (Mail Clerk Messenger), J (Proof Machine Operator), K (Teller), L (Stenographer), M (Secretary), O (Typist-Clerk), P (Coding Clerk), Q (Customer Service Representative), and X (Machine Operator) in that approximately three-fourths or more of the employees

TABLE 16

AGREEMENT OF COMPANY JOB IDENTIFICATION
WITH TRUE JOB TITLE

True Job Title	Total		Agree		Disagree	
	Number	Percent (%N)	Number	Percent (%n)	Number	Percent (%n)
(A) Accounting Clerk, Bookkeeper	18	3.4	10	55.6	8	44.4
(B) Billing Clerk	19	3.6	10	52.6	9	47.4
(C) Bookkeeping Machine Operator	13	2.5	7	53.8	6	46.2
(D) File Clerk	50	9.6	25	50.0	25	50.0
(E) General Clerk	114	21.8	57	50.0	57	50.0
(F) Key-Punch Operator	30	5.7	27	90.0	3	10.0
(G) Machine-Transcriber Typist	7	1.3	6	85.7	1	14.3
(H) Mail Clerk Messenger	20	3.8	15	75.0	5	25.0
(I) Payroll Clerk	4	.8	2	50.0	2	50.0
(J) Proof Machine Operator	9	1.8	7	77.8	2	22.2
(K) Teller	17	3.3	17	100.0	0	00.0
(L) Stenographer	14	2.7	12	85.7	2	14.3
(M) Secretary	26	5.0	20	76.9	6	23.1
(O) Typist Clerk	108	20.7	87	80.6	21	19.4
(P) Coding Clerk	10	1.9	7	70.0	3	30.0
(Q) Customer Service Representative	7	1.3	5	71.4	2	28.6
(R) Worksheet Clerk	23	4.4	2	8.7	21	91.3
(X) Machine Operator	33	6.4	29	87.9	4	12.1
Total	522	100.0	345	66.1	177	33.9

interviewed held job titles that agreed with the true job title. As will be observed from the table, in the other jobs there was much less frequent agreement between the job title the worker held and the true job title assigned based on the work performed.

Major Tasks Within Each Job Title

Workers holding beginning office positions perform many different tasks, and these tasks are performed for varying lengths of time. The amount of time devoted to a task is not necessarily an indication of the importance of that task. However, the fact that the management has assigned the task to the worker and, in effect, has asked him to spend the required amount of time performing that task may give some indication of the relative importance of the task to the company.

What, then, are the tasks, by true job title, that workers perform for at least one hour or more daily? For the convenience of the reader, those tasks that stand out as being performed by a substantial percentage of the workers within the given job title are reported below. Complete details on all tasks performed an hour or more daily are reported by job title in Table 1, Appendix C.

Job A--Accounting Clerk - Bookkeeper	
Posting verbal and numeric data	61.1%
Undertaking routine duties such as filing, mailing out customer bills, answering telephone, etc.	55.6
Checking and verifying vouchers before posting	33.3
Job B--Billing Clerk	
Preparing invoices and bills of lading	36.8
Computing accounts due from such records as purchase orders, sales tickets, and charge slips	31.6
Typing invoices, listing items sold, amounts due, credit terms and date of shipment	31.6

Job C--Bookkeeping Machine Operator	
Using a bookkeeping machine to record business transactions of a receiving and standardized nature	84.6
Placing appropriate bookkeeping forms on writing surface of machine and setting carriage	46.2
Job D--File Clerk	
Filing correspondence and other records according to an established system	80.0
Locating materials on request	52.0
Job E--General Clerk	
Sorting and filing records	31.6
(Note--a considerable number of widely dispersed tasks were identified. See table.)	
Job F--Key-Punch Operator	
Producing punched cards from properly coded materials	83.3
Job G--Machine-Transcriber Typist	
Transcribing materials such as letters, reports, memos from some mechanical recording equipment	100.0
Job H--Mail Clerk Messenger	
Sorting incoming mail	60.0
Distributing incoming mail	45.0
Routing incoming mail	35.0
Weighing, sealing, and stamping mail	35.0
Job I--Payroll Clerk	
Calculating earnings from time or production records	75.0
Posting individual payroll records and assisting in preparation of pay checks	50.0
Filing correspondence and other records according to an established system	50.0

Job J--Proof Machine Operator

Sorting, recording, and proving records of bank transactions, such as checks, deposit slips, and withdrawal slips, using proof machine	100.0
Positioning items in machine to be endorsed and grouped automatically, or manually sort items	55.6
Totaling tapes and locating, correcting and recording errors	55.6
Attaching tapes to sorted batches and preparing recapitulation sheets	44.4
Proving deposits, checks, debits, and credits listed on batch sheet	33.3

Job K--Teller

Cashing checks and paying out money upon verification of signatures and customer balances	76.5
Receiving checks and cash for deposit, verifying amounts, and examing checks for endorsement	76.5
Entering deposits in depositors' passbooks or issuing receipts	64.7

Job L--Stenographer

Transcribing dictation on a typewriter	78.6
Taking dictation from one or more persons	71.4

Job M--Secretary

Answering telephone and giving information to callers or routing calls to appropriate official	50.0
Taking dictation and transcribing it on the typewriter	42.3

Job O--Typist Clerk

Filling in or completing blank forms	49.1
Typing cards, envelopes, etc.	36.1

Job P--Coding Clerk

Converting routine items of information obtained from records and reports into code for processing onto card	100.0

Job Q--Customer Service Representative	
Giving information to customers	42.9
Job R--Worksheet Clerk	
Calculating rates or payments due	87.0

Major Job Tasks by TPT Total (All Workers)

There may be some tasks that are performed by all beginning office workers regardless of their job title. Other tasks are performed by a few and for rather lengthy periods of time. Still other tasks are performed rather infrequently by many workers or by few workers--perhaps weekly or monthly--but, nonetheless may represent very important work at the time they are performed.

Having identified the major job tasks within each job title in preceding paragraphs, it may now be of interest to cut across specific job title lines and consider the work performed by the beginning office employees as a whole. In order to obtain a picture of the relative importance of the tasks undertaken by beginning office employees, it was felt that a simple arbitrary formula should be used. Thus, a TPT total (Task x People performing the task x the weighted Time) was computed for each task. The complete information and the identification of the weights assigned may be observed from Table 1, Appendix C.

It will be observed, as indicated in the table that 14 specific job tasks have a TPT total of 500 or more. Apparently, the top three job tasks of greatest importance as indicated by the TPT total are as follows:

Filling in or completion of blank forms	1390
Filing of correspondence and other records according to an established system	1310
Typing of letters and reports from rough drafts	975

Other job tasks having high TPT ratings are:

Typing of cards, envelopes, and the like	879
Locating materials on request	809

Verifying totals on report forms, requisitions or bills	663
Sorting and filing records	650
Answering telephone, conveying messages, and running errands	635
Filing correspondence, cards, and business papers	630
Producing punched cards from properly coded materials	641
Writing or typing bills, statements, receipts, checks, or other documents copying information from one record to another	589
Proofreading records and forms	579
Typing form letters	564
Doing routine non-skill tasks	508
Typing tables and statistical material	548

Judging from the TPT totals of 10 or less, the following are not among the more important job tasks performed by beginning office workers:

Preparing tickler files

Setting up transcribing machine in preparation for transcription

Keeping a file of records or discs

Erasing records to prepare them for re-use

Keeping records of sick leave pay and non-taxable wages

Preparing and distributing pay envelopes

Preparing annual reports of earnings and income tax deductions

Using a shorthand machine

Taking minutes at staff meetings

Decoding coded items

Investigating customer complaints

Keeping record of transactions with customers and the like

Equipment Used by Beginning Office Workers

The business machine has become a fixed part of the environment of the business office and is an important factor in facilitating the work. The types of machines found in the office are determined by the nature of the work to be performed. Businessmen usually expect persons applying for office jobs to have some acquaintance with the function and operation of the common office machines. In this study, the researchers were interested in determining just what machines beginning office workers actually use on jobs and approximately how much time they spend using them.

As indicated by the figures presented in Table 17, the ten-key adding machine, the photocopying machine, the full-keyboard adding machine, and the typewriter are the four pieces of office equipment used by 10 percent or more of all the beginning office workers interviewed. Very few beginning workers seem to be assigned job tasks requiring the use of such items of equipment as the offset duplicator, the stamp-affixing machine, the printing calculator, the vari-typer, and the like.

The machines or related types of office equipment which are used the most by those workers who use them at all, are the billing machine (80 percent of the workers using this equipment operate it more than three hours a day), the I. B. M. Executive typewriter (60 percent), the elite-type electric typewriter (60 percent), the card key-punch machine (57 percent), the Flexowriter (54 percent); and the pica-type electric typewriter (51 percent).

The pieces of equipment that are used by at least 5 percent of all the workers interviewed but that are used for less than an hour a day by half or more of the workers using the equipment, include the photocopying machine (81 percent of those using it spend less than an hour a day with the machine); the envelope sealer (75 percent); the stencil process duplicator (73 percent); the full-keyboard adding machine (70 percent); the ten-key adding machine

TABLE 17

MACHINES AND RELATED OFFICE EQUIPMENT USED BY BEGINNING WORKERS

Office Equipment Used	Total			Daily Use								
				Less than 1 Hour			1 to 3 Hours			Over 3 Hours		
	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n
Adding machine, ten-key	191	36.6	100	114	21.8	59.7	40	7.7	20.9	37	7.1	19.4
Photocopying machine (Xerox, thermo-fax, etc.)	159	30.5	100	128	24.5	80.5	23	4.4	14.5	8	1.5	5.0
Typewriter, manual, pica	117	22.4	100	56	10.7	47.9	26	5.0	22.2	35	6.8	29.9
Adding machine, full keyboard	115	22.0	100	80	15.3	69.6	19	3.6	16.5	16	3.1	13.9
Typewriter, electric, pica	97	18.3	100	38	7.3	39.2	10	1.9	10.3	49	9.4	50.5
Typewriter, manual, elite	75	14.4	100	43	8.2	57.3	10	1.9	13.3	22	4.2	29.3
Typewriter, electric, elite	55	10.5	100	16	3.1	29.1	6	1.1	10.9	33	6.3	60.0
Unit record equipment, card key-punch	47	9.0	100	11	2.1	23.4	9	1.7	19.1	27	5.2	57.4
Duplicator, fluid process	44	8.4	100	26	5.0	59.1	10	1.9	22.7	8	1.5	18.2
Calculator, key-driven	41	7.9	100	24	4.6	58.5	3	0.6	7.3	14	2.7	34.1
Postage meter machine	35	6.7	100	19	3.6	54.3	9	1.7	25.7	7	1.3	20.0
Envelope sealer	32	6.1	100	24	4.6	75.0	4	0.7	12.5	4	0.7	12.5
Calculator, rotary	27	5.2	100	12	2.3	44.4	2	0.4	7.4	13	2.5	48.1
Duplicator, stencil process	26	5.0	100	19	3.6	73.1	6	1.1	23.1	1	0.2	3.8
Transcribing machine	24	4.6	100	7	1.3	29.2	10	1.9	41.7	7	1.3	29.2
Envelope opening machine	23	4.4	100	19	3.6	82.6	1	0.2	4.3	3	0.6	13.0
Checkwriter	21	4.0	100	16	3.1	76.2	2	0.4	9.5	3	0.6	14.3
Postal Scale	21	4.0	100	17	3.3	81.0	2	0.4	9.5	2	0.4	9.5
Typewriter, IBM Executive	20	3.8	100	6	1.1	30.0	2	0.4	10.0	12	2.3	60.0
Bookkeeping machine	18	3.4	100	9	1.7	50.0	6	1.1	33.3	3	0.6	16.7
Addressing machine	17	3.3	100	10	1.9	58.8	6	1.1	35.3	1	0.2	5.9
Unit record equipment, verifier	15	2.9	100	6	1.1	40.0	2	0.4	13.3	7	1.3	46.6
Flexowriter	13	2.5	100	4	0.7	30.8	2	0.4	15.4	7	1.3	53.8
Unit record equipment, reproducer	12	2.3	100	7	1.3	58.3	3	0.6	25.0	2	0.4	16.5
Billing machine	10	1.9	100	2	0.4	20.0	0	0.0	00.0	8	1.5	80.0
Dating machine	10	1.9	100	5	1.0	50.0	2	0.4	20.0	3	0.6	30.0
Telex machine	10	1.9	100	6	1.1	60.0	3	0.6	30.0	1	0.2	10.0
Telephone switchboard	10	1.9	100	4	0.7	40.0	3	0.6	30.0	3	0.6	30.0
Copyholder	7	1.3	100	3	0.6	42.9	1	0.2	14.3	3	0.6	42.9
Duplicator, offset	7	1.3	100	5	1.0	71.4	2	0.4	28.6	0	0.0	00.0
Stamp affixing machine	5	1.0	100	4	0.7	80.0	0	0.0	00.0	1	0.2	20.0
Calculator, printing	4	0.8	100	2	0.4	50.0	2	0.4	50.0	0	0.0	00.0
Vari-typer	3	0.6	100	0	0.0	00.0	0	0.0	00.0	3	0.6	100.0
Justowriter	1	0.2	100	1	0.2	100.0	0	0.0	00.0	0	0.0	00.0
Shorthand machine	0	0.0	000	0	0.0	00.0	0	0.0	00.0	0	0.0	00.0
Others (various machines, few users)	98	18.8	100	38	7.3	38.8	21	4.0	21.4	39	7.4	39.8

NOTE: This table should be read as follows: Of the 522 beginning office workers interviewed, 191 or 36.6 percent reported using the ten-key adding machine. Of the 191 who used the machine, 114 used it less than an hour a day. These 114 workers represented 21.8 percent of all workers interviewed, but 59.7 percent of the 191 who used the machine.

(60 percent); the key-driven calculator (59 percent); the fluid process duplicator (59 percent); the elite type manual typewriter (57 percent); and the postage meter machine (54 percent).

An analysis was made to determine those machines most used by employees within specified job families. The tabulation which follows reports those machines used an hour or more daily by a least 10 percent of all employees within a given job family. The jobs and the number of employees within each job family are also indicated.

Bookkeeping and Computational (AIR) (Number = 45)

Ten-key adding machine	33.3%
Rotary calculator	28.9
Key-driven calculator	13.3
Full-keyboard adding machine	11.1

Clerical (BDEHOP) (Number = 321)

Ten-key adding machine	15.3
Typewriter, manual, pica	13.4
Typewriter, electric, pica	13.1

Machine Operation (CFJX) (Number = 84)

Card key punch machine	24.5
Bookkeeping machine	14.3
Ten-key adding machine	10.0

Customer Contact (KNQ) (Number = 25)

Full-keyboard adding machine	40.0
Ten-key adding machine	32.0
Addressing machine	16.0
Bookkeeping machine	16.0

Stenographic and Secretarial (LMG) (Number = 47)

Typewriter, electric, pica	31.9
Transcribing machine	23.4
Typewriter, manual, pica	23.4
Typewriter, electric, elite	19.1
Photocopying machine	17.0
Typewriter, manual, elite	14.9
Typewriter, IBM Executive	12.7

Thus it can be observed that the ten-key adding machine is one that is much used by employees in four of the five job families. As would be expected, typewriters are very important items of office equipment in the clerical and the stenographic and secretarial job families. The diverse nature of the job tasks of the relatively few employees interviewed in the customer contact job family might account for the type of machines used by these employees. The fact that many beginning office workers perform such a variety of tasks daily might account for the rather limited number of machines that they use every day for extended periods of time.

Aspects Related to Performance on the Job

The preceding sections of this chapter have dealt primarily with the job tasks performed by the beginning office workers included in the study. The remaining sections of the chapter will deal with certain broader aspects of the job and tasks that the workers perform, and how the workers view them.

Efficiency of the Job as Perceived by Beginning Office Workers

How a worker perceives his performance on the job is generally thought to have much to do with job satisfaction; and job satisfaction, in turn, has a bearing on turnover. Of the workers included in this study, fewer than 1 in 10 (8 percent) feel that they are very efficient on the job, but 6 out of 10 (60 percent) feel themselves to be efficient. On the other hand only slightly more than 1 in 4 (28 percent) feel that they are fairly efficient or not very efficient at all. Positive judgments relative to efficiency were rendered by employees on the basis of such views as the following:

My supervisor or others who know my work have complimented me
I do exactly what is requested
I work to the very best of my ability
I get no complaint about my work
I know how to do the job and do it
I complete the work accurately
I complete the work quickly
I complete the work quickly and accurately

The job is so simple anyone could do it
I have the ability to adapt to changing conditions
I don't get criticized
I like the work
I learn quickly
I have sufficient skill, knowledge, and understanding to do the work
I do more than is actually required of me
I had good training

Negative judgments relative to efficiency were rendered by employees interviewed on the basis of such views as these:

There are too many interruptions for efficient work
I am just learning the work
I don't have sufficient skills, knowledges, and understandings necessary to work efficiently on this job
The work gets dull
We waste too much time on the job
The work assignment is a poor system
The work load isn't balanced very well

Whether the above reasons given by beginning office employees are valid bases for judging efficiency and whether, indeed, such beginning workers can even render valid judgements in this regard, are not the important points here. The point is that this is how the workers rate their performance in terms of their conception of what efficiency is. It may be that their judgments afford some insights into their conception of efficiency.

It is interesting to note also that most of the office workers (nearly two-thirds or 63 percent), based on their training and experience on the job, felt that the equipment and supplies provided them were quite adequate to enable them to perform efficiently in their work situation. Some felt, however, that more equipment or newer and more up-to-date models of the equipment on which they are now working would enable them to perform their tasks more efficiently. Four-fifths (81 percent) of those who made the suggestions relating to the need for more or better equipment indicated that they felt qualified to operate the equipment they suggested and that its use would improve their efficiency without further training.

Workers' Perceptions Relative to Use of Their Skills

Businessmen often comment that applicants for positions do not bring adequate skills and abilities to the jobs. The researchers were interested in learning whether the workers in beginning office positions felt that the skills and abilities that theypossess to a marketable degree are being used on their jobs.

It is interesting to note from the figures appearing in Table 18 that slightly over a half of the beginning office workers interviewed expressed the belief that the abilities and skills that they possess or that they had acquired during their schooling are being used to the extent that they would like for them to be used. Just what that extent is, of course, was not investigated. It might be said, then, that in about half of the cases, the workers and their skills and abilities are fairly well matched with their jobs.

TABLE 18

BELIEFS OF BEGINNING OFFICE WORKERS AS TO WHETHER THEIR SKILLS AND ABILITIES ARE BEING FULLY USED

	Total		Fully Used			Not Fully Used			Don't Know		
Job Families	No.	%N	No.	%N	%n	No.	%N	%n	No.	%N	%n
Clerical	321	61.5	153	29.3	47.7	161	30.8	50.2	7	1.3	2.2
Machine Operation	84	16.1	46	8.8	54.8	36	6.9	42.9	2	0.4	2.4
Stenographic	47	9.0	29	5.6	61.7	18	3.4	38.3	0	0.0	0.0
Bookkeeping	45	8.6	28	5.4	62.2	17	3.3	37.8	0	0.0	0.0
Customer Contact	25	4.8	13	2.5	52.0	7	1.3	28.0	5	1.0	20.0

On the other hand, it must be noted that the other half of the workers felt that their abilities and skills are not being used to the extent they desire. The greatest dissatisfaction seems to occur within the clerical job family, in which group over half of the 321 workers felt that their present jobs do not make sufficient use of their skills and abilities. Possibly this is accounted for by the fact that many clerical workers are assigned routine tasks often requiring only low level skills; whereas such jobs as those in the bookkeeping, stenographic, machine operation, and customer contact classifications call for somewhat specialized knowledges and skills. Whatever accounts for the fact, it seems that those in bookkeeping and stenographic types of jobs feel that their work makes greater use of their abilities than do the workers in the other three job families.

The typewriting, shorthand, and bookkeeping skills are the ones most often cited as those of which full advantage is not taken by the companies. Of the workers who felt that they possess skills that were not being used, nearly 1 in 4 (24 percent) cited the skill of typewriting, and about 18 percent cited shorthand, while 7 percent cited both typewriting and shorthand as skills they possess that are not being used and which they fear losing. Although 8 percent of the employees responding to the item indicated that their bookkeeping skills are not being used, it is probable that their knowledges of bookkeeping terms and practices may contribute to their efficiency in other aspects of their work without their actually using them in recording types of tasks.

Workers' Perceptions Relative to Emotional Stress of Their Jobs

In a society increasingly complex in technology and in interpersonal relationships, there is likely to be considerably more stress and strain created in the work one does. It was thought to be of interest to determine what the beginning office workers perceive as aspects of their work that involve emotional strain.

More than 4 workers out of 10 (44 percent) indicated that none of the aspects of their job involve emotional strain. This seems to suggest that these workers feel fairly relaxed in doing their job or have confidence in their ability to do the work. On the other hand, nearly 6 workers out of 10 (56 percent) reported some emotional strain. This is understandable in view of the fact that many of the young workers are still in the process of adjusting to the business office and to the job and may have felt that they were still on trial with the company.

There was only one aspect of the work cited by a substantial number (15 percent) of beginning office workers as involving emotional strain. The workers seem to feel the pressure of work during unusually busy periods and when a given amount of work is assigned to be completed within a specified time period. A number of other aspects involving some emotional strain were cited by fewer than 10 percent of the workers but by more than 2 percent. These include the following:

Having to get along with people in the office
Dealing with customers
Undertaking rush jobs that must be gotten out immediately
Trying to find errors
The general duties of the job
The unevenness of the work load

Based on the above facts and upon conversations with office workers at the time of interview, it does not appear as if the workers are particularly awed by or feel under pressure in their jobs.

Are Supervisors Aware of the Work Performed by the Workers They Supervise?

The complaint is frequently made by workers in all walks of life that their supervisors do not appear to them to know and/or appreciate the kind of work performed by the office workers they supervise. The office workers may be suggesting that they doubt whether their work is, therefore, fairly evaluated. In order to determine worker perceptions on this matter, interviewers raised this general question with the office workers included as subjects in this study.

Nearly 9 out of every 10 workers (459 or 88 percent of all the workers) feel that their supervisors are acquainted with the amount and quality of the work that they perform. This high affirmative response seems to be characteristic of the employees in all job families with the exception of the customer contact group which, for some reason, had an unusually high percentage (26 percent) of negative or uncertain responses. It must be remembered, however, that the number of employees interviewed in this group was limited to only 25 interviewees inasmuch as few beginning office employees hold these types of positions.

Though it would seem that most beginning office workers do feel that their supervisors are acquainted with the performance of those they supervise, the 12 percent who do not believe this or are uncertain about the matter is sufficiently large to suggest that companies might well consider studying the matter further.

Likes and Dislikes About Their Job

Young people and beginning office workers, like people of all ages and workers in any area of occupational activity, vary in terms of interests, likes, and dislikes. What one person may find acceptable within a given job situation or within a company may be most distasteful to another. Yet, some indication of what beginning office workers find attractive about their jobs and what they dislike, particularly when identified by a research team not connected with the company for whom the employees work, may be of interest to the business comunity and to educators.

Three aspects of the job stand out in terms of the number and percent of workers who mentioned them in a favorable light. These were "good co-workers," cited by 168 or nearly a third (32 percent) of the workers; "a variety of duties," cited by 81 or 16 percent; and "duties of the job are interesting," cited by 79 or 15 percent of the workers interviewed.

When asked about the aspects of the job that they disliked the most, 177 employees, or just over a third (34 percent) of all the interviewees, responded that they disliked nothing about their present job. The only complaint that represented more than 10 percent of the responses was that cited by 74, or 14 percent of the employees, to the effect that the work was monotonous. Interestingly enough, what one might ordinarily expect a beginning employee to comment upon, i.e., the pay the job offers, was commented on favorably by fewer than 2 percent, and negatively (as a dislike item) by about 4 percent of the employees interviewed. There were other aspects of the job mentioned in favorable or in unfavorable lights. However, inasmuch as they represent very small percentages of the suggestions made by the employees, they are not reported here.

It is possible that the employees were less than candid for fear that expressed dislikes might get back to their supervisors. Interviewees were assured of the confidential nature of their responses, however, and interviewers did not observe a reluctance on the part of the employees to discuss this matter.

CHAPTER V

- FINDINGS -
KNOWLEDGES, SKILLS, AND OTHER CHARACTERISTICS NEEDED BY BEGINNING OFFICE EMPLOYEES

In the preceding chapters, findings have been reported relating to the major employers of beginning office workers, who the workers are, the jobs they are in, and the job tasks that they are assigned to do. In this chapter will be reported the knowledges, skills, and understandings that the workers perceive as necessary for success in their office job entry positions. In addition, attention will be given to strengths and shortcomings of beginning office workers as perceived by those who supervise their work.

Personal Characteristics Needed for the Job

It is commonly recognized that the possession of certain skills, knowledges, and understandings do not, of themselves, assure success on the job. Most office workers perform their tasks in association with other people and under the supervision of one or more senior employees. It would seem, then, that it is important for the beginning office worker to develop those personal characteristics which will contribute to his success.

To obtain some idea of the personal characteristics that seem to be most needed by the employee in an office job entry position, the research team asked the workers interviewed to indicate, from a listing handed to the interviewee, those personal characteristics which the interviewee considers to be essential to success on the beginning job he now holds, important but not essential, or unimportant. In addition, the interviewees were given the opportunity to add any other characteristic that may not have been included in the listing.

The ratings were weighted, as indicated in Table 19, and a combined and an average score were determined for each characteristic. The table displays the figures indicating the relative importance of the personal characteristics as judged by all workers interviewed. Tables were also developed to display scores computed from the ratings given by employees within each of the five job families. However, in order to conserve space, these latter tables are not displayed in this report.

It will be observed that two characteristics stand out in importance as indicated by the combined and average weighted scores. These are (1) accuracy in work and (2) sense of responsibility. Each compiled an average score of 1.85 or more. Other characteristics with average scores of 1.70 or more include the following:

regularity of attendance
dependability
neatness of work
being well organized
ability to work well with supervisors

The workers seemed to feel that it is not very important, for success in beginning office jobs, to possess a sense of humor or be able to express oneself well either in writing or orally. This is somewhat surprising in the light of often expressed comments by businessmen and educators concerning the great need for the ability to express oneself clearly.

It is also of interest to note that when the scores of characteristics were analyzed by job family, it was found that accuracy of work and sense of responsibility are the only two characteristics that earned top ratings in all 5 job families. Dependability earned a top score in 4 of the 5 job families, and regularity of attendance earned a top score in 3 of the job families. Two characteristics were rated high by the employees in the customer contact job family that were not rated particularly high by others. These were ability to work well with the public, and displaying a willingness to be helpful.

TABLE 19

PERSONAL CHARACTERISTICS RECOMMENDED BY BEGINNING OFFICE WORKERS FOR SUCCESS ON THE JOB

Characteristic	Unimportant (0 wgt.)		Desirable (1 wgt.)		Essential (2 wgt.)		No Response		Weighted Score*	
	No.	%N	No.	%N	No.	%N	No.	%N	Comb.	Avge.
be accurate in his work	3	.6	54	10.3	461	88.3	4	.8	976	1.87
have sense of responsiblity	2	.4	73	14.0	446	85.4	1	.2	965	1.85
be regular in attendance	1	.2	121	23.2	398	76.2	2	.4	917	1.76
be dependable	1	.2	75	14.4	417	79.9	29	5.6	909	1.74
be neat in his work	3	.6	128	24.5	390	74.7	1	.2	908	1.74
be well organized	6	1.1	135	25.9	380	72.8	1	.2	895	1.71
be able to work well with supervisors	5	1.0	144	27.6	371	71.1	2	.4	886	1.70
be able to work well with fellow workers	7	1.3	151	28.9	362	69.3	2	.4	875	1.68
display a willingness to be helpful	2	.4	169	32.4	350	67.0	1	.2	869	1.66
possess initiative to see what needs to be done and do it	12	2.3	203	38.9	305	58.4	2	.4	813	1.56
be able to accept constructive criticism	20	3.8	182	34.9	311	59.6	9	1.7	804	1.54
have a real interest in his work	15	2.9	236	45.2	268	51.3	3	.6	772	1.48
be able to adapt to change	39	7.4	184	35.2	294	56.3	5	1.0	772	1.48
be neat and well groomed	18	3.4	268	51.3	234	44.8	2	.4	736	1.41
be loyal to the company and employer	38	7.3	219	42.0	255	48.9	10	1.9	729	1.40
possess self-confidence	32	6.1	274	52.4	212	40.6	4	.8	698	1.34
exercise judgment in making decisions	42	8.0	285	54.6	192	36.8	3	.6	669	1.28
display willingness to perform unpleasant tasks	41	7.9	305	58.4	173	33.1	3	.6	651	1.25
be enthusiastic	41	7.9	314	60.2	164	31.4	3	.6	642	1.23
be able to work well with the public	157	30.1	168	32.2	193	37.0	4	.8	554	1.06
be able to express himself orally	118	22.6	269	51.5	133	25.5	2	.4	535	1.02
possess sense of humor	111	21.3	290	55.6	106	20.3	15	2.9	502	.96
be able to express himself in writing	202	38.7	215	41.2	101	19.3	4	.8	417	.80
Others (one or more mentions) Commonsense, ambition, ability and willingness to learn, interest in other people, patience, poise and composure, like repetitious work, ability to follow directions, aptitude	0	0.0	1	.2	7	1.3	0	.0	15	.03

*The combined weighted score for each characteristic is determined by multiplying the number of responses by the weight that appears at the tope of the column. The average weighted score is then determined by dividing by N (or 522). Thus, the first scores in the table would be determined as follows: 3 x 0, 1 x 54, and 2 x 461; products added; = 976. This figure, divided by N, = 1.87. As in preceding tables, %N indicates the percentage that the number appearing immediately to the left is of the total workers interviewed (522).

It appears that the personal characteristics workers rate the highest are those that are most beneficial to employees doing rather specific and well defined tasks, perhaps even in a regimented type of job; whereas the characteristics rated less important might be thought of as those that would be expected of persons doing more advanced or creative types of work.

Workers' Perceptions of Needed Knowledges, Skills, and Understandings

In order to learn firsthand what the new office worker feels are necessary abilities that he needs to do his job, a list of skills, knowledges, and understandings was presented to him for his consideration. Included were those ordinarily associated with such functions as typewriting, communication by mechanical means (telephone, telegraph, etc.), filing, arithmetic, stenography, and the like. The employee was asked to check those which he believes he needs to know in order to do the work he is assigned to do. The interviewer was ready and willing to help the worker interpret any item about which there might be a question.

Since the research team wished to find out what the beginning office worker himself sees as job demands, the entire list, containing both abilities one would and would not ordinarily expect a particular job to require, was presented to every interviewee. For example, a file clerk would be asked, in addition to questions about filing abilities, whether in order to do his job he needs to be able to type letters at an average rate of speed, whether he needs to be able to figure discounts, or to read charts, graphs, and financial statements. The aim was to learn just what workers really need to know in order to perform their tasks well, so that workers can be given the necessary preparation they need in order to meet the demands made of them after they leave school and enter the business office. Likewise, abilities not needed on the job could be deemphasized in educational programs.

One caution needs to be pointed out at this time, however. Just because workers claim they are not expected to know or be able to do certain things should not necessarily be taken to mean their employers do not need such abilities and knowledges from new workers. This study, in the main, did not look into expressed desires of employers on the matter, though some effort was made in this direction (as will be indicated in detail later in this chapter) based on conversations with supervisors of the workers.

The Factor Analysis as a Technique

In order to summarize in a meaningful manner the vast number of responses that this study would produce, it was decided to do a series of factor analyses over six groups of the responses to the items. First, an analysis was done over all workers disregarding the particular job to which any one was assigned. This would give a brief description by the typical beginning office worker in Connecticut as to what he perceives his work abilities and knowledges to be.

Next, the investigators, by logical means, and as explained in detail in Chapter IV, grouped the twenty some jobs into five job families - 1. Bookkeeping and Accounting, 2. Clerical, 3. Machine Operation, 4. Customer Contact, and 5. Stenography and Secretarial. Analyses of each would in turn reveal how workers in such job family categories perceived the necessary knowledges, skills, and understandings needed to do their jobs.

Factor analysis basically is a technique for correlating large numbers of test items and rearranging these correlations into as small a number of underlying variables or factors as will adequately account for or explain the meaning of the entire item array. In other words, although the interview guide constructors may have thought there was a real difference between how to endorse checks properly and knowing how checks are paid and cleared, the analysis might reveal that if beginning office workers in bookkeeping jobs indicated that they need to know the first, they most certainly need to understand the other as well.

One immediate technical problem which needed to be solved in order to factor analyse dichotomously-scored ("yes", "no" or "check", "no check") items with no external criterion such as a total test score or a supervisor's efficiency rating, was how to correlate the items in a meaningful manner. It was reasoned that since the behavior under study was to see just which knowledges, skills, and understandings were perceived by the interviewees as going together or co-occuring, without considering the relative importance that any particular item bore in relation to some external criterion, the logical statistic of choice would be a coefficient of contingency. The appropriate coefficient of correlation is phi. The phi coefficient of correlation is an estimate of the Pearson product moment coefficient for which it is assumed that the two variables are dichotomously distributed, that is they can be scored only by a one-zero or present-absent system. This fits the purpose of the investigation rather well since, as was pointed out before, not the degree to which certain abilities were demanded, but merely which ones do beginning office workers find their tasks demanding was the question of interest.

Punched cards containing the dichotomous responses to 173 such items were analyzed. Only those items to which at least ten percent of the workers in a group had responded positively were retained. A Fortran program was written which computed the chi square contingency coefficient between each and every other question. The IBM 7040 computer at the University of Connecticut Computer Center, on which all computer processing for the study was done, has in its program library a chi square subroutine as well as various subroutines necessary for a principal components and varimax factor analysis. The chi square for each pair of items was converted to a phi coefficient of correlation. The matrix of phi coefficients for each job family and also for all employees interviewed was next fed into the factor analysis computer routines. The results (factor loadings) produced by these computations, as obtained from the printout, were recorded on very large tables, and figures were studied. Although wall-size tables were prepared to display the factors and factor loadings both by the individual job families and by all employees, in the interest of conserving space, only a telescoped or abstracted table displaying data obtained from all employees is presented in this report (see Table 20).

Of interest to perspective researchers might be the time demands made of the computer in providing the information sought. The job family matrices of phi correlations required from 15 seconds on the 18 variable matrix (Machine Operator job family) to 4.3 minutes on the 48 variable matrix (Clerical job family) to compute, not counting program compile time and input-output operations. The rather large 94-variable all employees phi coefficient matrix had to be done in two passes because it exceeded the core storage capacity of the 32,000 "word" machine that was used. These two runs required a total of about 27 minutes.

In summary and by way of review then, it must be kept in mind that varimax factor analysis is a recent elaboration of an extremely complex statistical technique designed by behavorial scientists a generation or more ago to discover the relatively few general variables (abilities and knowledges in the case of the present study) which it is believed underlie the seemingly endless varieties of human behavior. The present investigation was concerned with finding out, with some precision, just what sorts of abilities, knowledges, and understandings the new office workers need to have in order to do their jobs. The tasks performed by these young people are extremely varied, and the settings and conditions under which they perform them vary according to type and size of company, and the area in which they work. So elaborate a complex of phenomena, just as for the experimental psychologist trying to reduce to understandable dimensions extremely

TABLE 20

FACTOR ANALYSIS OF SKILLS, KNOWLEDGES, AND UNDERSTANDINGS NEEDED BY BEGINNING OFFICE WORKERS
(Factor Loadings Reported)

Coded SKU*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
4-09	.42																										
4-10													-.68														
4-11							.77																				
4-12																			.48								
4-13							.80																				
4-14																				.74							
4-15	.40				.33												.43										
4-16				.44									-.77														
4-17													-.32														
4-18	.33										.60																
4-19	.43										.52																
4-20																	.73										
4-21																	.75										
4-22															-.64												
4-23															-.70												
4-24															-.59												
4-28																			.64								
4-30									-.76																		
4-31									-.71												.65						
4-32																											
4-33	.37																				.32						
4-34	.32																									-.49	
4-35	.33																										
4-36	.64				.34																					-.38	
4-37	.47				.35																						
4-38																		.74									
4-39					.39																					.61	
4-40																											
4-42					.50		.32																				
4-43	.32				.44																						
4-44					.58																						
4-45	.30																										
4-46																				.31							
4-47	.32				.56																						
4-48	.37																					.52					
4-49	.45				.41																						
4-50	.54																										
4-51					.63																						
4-52					.57		.37																				
4-54																					.47	.31					
4-55					.61																						
4-56														-.78													
4-61	.44				.30																						
4-62	.65																							.39			
4-63	.31																										

*The skills, knowledges, and understandings are indicated by IBM card number and column number, the legend for which appears in the interview guide, Appendix B. Factor loadings have been rounded to the second place to the right of the decimal. For detail, see chapter narrative.

TABLE 20 (continued)

Coded SKU	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
4-64	.68																										
4-65	.65																										
4-66	.73																										
4-67	.71																										
4-68																								.71			
4-69	.72																										
4-70	.73																										
4-71	.55																										
4-72	.54																										
4-75						.32						.35															
4-76	.51						.33																				
4-78						.66																					
4-79						.74																					
5-09			-.38																								
5-10												.65															
5-11			-.40									.44															
5-12			-.69																								
5-13			-.62																								
5-14			-.60																								
5-15			-.54																								
5-16			-.36																.32								
5-17			-.54																								
5-18			-.58																								
5-19			-.52																								
5-20			-.62																								
5-24																											-.70
5-32										.65																	
5-33										.66																	
5-38										.67																	
5-52																									.66		
5-53																									.66		
5-58				.60																							
5-59				.73																							
5-60				.74																							
5-61				.67																							
5-64				.45																							
5-65				.62																							
5-68																-.71											
5-69																-.54											
5-70																-.58											
5-72		.72																									
5-73		.70																									
5-74		.74																									
5-75		.76																									
5-76		.74																									
6-10								.79																			
6-11								.78																			
6-13								.62																			
6-28																							.73				

complex general intellectual behavior, must for the population of new office workers be reduced to comprehensible proportions. Factor analysis with varimax rotation is the appropriate technique since it requires no decisions as to the complexity of the variables to be observed and analyzed. Indeed, varimax factor analysis "discovers" the underlying basic variables which go through varied combinations and may most reasonably account for the spectacular array of individual variations found in each job-person intersection.

Associated Skills, Knowledges, and Abilities Revealed by Factor Analysis

It was supposed that there would not be much value in describing the so-called "typical beginning office worker." Of more interest would be several job demand descriptions based on generally accepted job category classification. It was soon apparent that an analysis on each "true job title" would be self-defeating because of extremely small sample sizes and, concomitantly, a loss in validity of judgment when fine distinctions needed to be made, as for instance between a worksheet clerk and a coding clerk. A satisfactory solution seemed to lie in lumping together, as previously described, those job titles which professional judgment would suggest might demand a relatively unique or distinguishable set of abilities. Thus, five such clusters or job families were formed.

The discussion which follows is based on the factor analyses of the total sample of interviewees' replies relating to skills, knowledges, and understandings needed to perform the work presented them on their jobs.

First, Table 20 displays the factors found and the loadings on each factor which exceeded a coefficient of .30 for any of 94 variables for the entire sample of interviewees. A simple way to understand this is to assume that for the group represented in the table, although each person was asked to reply to some 170 ability or knowledge descriptions based on his recall of the demands of his job, many of the abilities and knowledges are highly correlated and in fact are almost indistinguishable from one another. For instance, if a typist checked the item, "Do you need the ability to type letters?" it is apparent from the high loadings, the first column of Table 20 (Factor 1) on the line with 4-36, 4-62, 4-64, 4-65, 4-66, 4-67, 4-69, 4-70, that some of the ten knowledges, abilities, and understandings go together in over one-third of the people queried (one-third, because the square of a .60 loading is .36).

As the reader will observe from Table 20 and as indicated in the footnote to that table, each skill, knowledge, or understanding is indicated by a three-digit number. Thus, 4-46 refers to IBM card number 4, column 46. The complete description of the skill or knowledge can be read by locating this number in the interview guide, page 160 in Appendix B. The skills, knowledges, and understandings are coded in the table only to conserve space and to make possible the presentation of the table.

Further inspection of Factor 1 (or what might be called the "preparation of typewritten documents factor") reveals that four abilities, 4-66, the ability to plan letter placement; 4-67, ability to estimate letter length; 4-69, ability to place a letter on a page correctly; and 4-70, knowledge of how to indicate enclosures and carbon copy notation, are frequently found associated with one another since each has a loading of over .70.

We may also note that certain activities are only slightly associated with Factor 1, those which load below .60. Still more remotely connected or completely absent for people who do a good deal of typing are the activities which were found to load less than .30 and are represented by blank spaces in column 1.

Factor 2 may be called the "banking services factor." It is comprised of items 5-72 through 5-76. The absence of a significant loading on any other variables suggests that new workers who are expected to function in types of jobs demanding abilities and knowledges of this type are by and large protected from other peripheral duties requiring a knowledge of typing, telephoning, and the like. It may seem odd that variable 4-17, arithmetic, did not emerge on this factor. The reason for this is not hard to find. If one follows row 4-17 across the table he sees that both factors 4 and 13 share much of the variance (loadings) of item 4-17. By looking down column 4 one observes that the very high loadings on items 5-58 through 5-61, 5-64, and 5-65 indicates that some beginning workers are engaged in jobs which require a great deal of computational work, even more than that demanded, perhaps, of beginning bank tellers. Also, a look at column 13 reveals that basic arithmetic is along with 4-10, "type accurately at a high rate of speed," and 4-16, "type symbols and figures at a high rate," a factor unto itself with three substantial negative loadings. It seems that the best interpretation to be made here is that the wording in the questionnaire had a meaning for many of the interviewees to which they felt they could not subscribe. It could be that "accurately," "high rate," "do basic addition," etc., if responded to positively by these new people, might be interpreted as arrogant and presumptious. Hence they tended to deny that their entry level jobs required such levels of ability.

Indeed, a glance at Table 2A in the appendix indicates that only 33 interviewees claimed that they needed to "type accurately at a high rate of speed," and only 27 out of 522 claimed a similar level of skill was expected from them in the "figures and symbols" area. We may conclude from these facts that interviewees were commendably forthright and honest in their responding, even, perhaps self-effacing.

In summarizing the findings, figures presented in both Table 20 and Table 2A in the appendix need to be consulted. As indicated in Table 20, 27 factors emerged which show, from the thoughtful and candid responses of beginning office workers, just what is expected of them based on a selected listing of skills, knowledges, and understandings. Presented here are the 27 factors by the name assigned them. Those readers who are interested in this aspect of the report may wish to identify the coded skills, knowledges, and understandings and to examine the figures reported in Table 20. More revealing information can be obtained by considering Table 20 and Table 2A together. For those readers not particularly interested in the factor analysis, later discussion will center on less sophisticated figures and data. Presented here, however, are the 27 factors identified by descriptive names. Only selected factors are briefly interpreted.

Factor 1: Typing factor. Those who do straight typing need to know letter form, how to type letters, address the accompanying envelopes, and must concentrate largely on the physical placement, neatness, and completeness of the document. They are not as often required to attend to spelling, punctuation, proofreading, (perhaps the work of others), to know how to compose business forms, write reports and manuscripts, type on ruled lines, or use off-sized stationery. Other more complex typing skills, as indicated by the lack of factor loads in column 1, rows 4-10, 4-17, 4-39, 4-40, etc., are practically never an issue for them.

Factor 2: Bank services factor. Those who do work that call for these knowledges and abilities indicated just those demands which are specific to their work. They indicated other items as well, but so did many other new workers. Hence, 4-17 (arithmetic computation) was mentioned by many other people, and not only those one would surely expect needed to know how to compute. In other words, basic arithmetic ability may be a business-wide ability required of all office workers no matter what else their particular jobs demand.

Factor 3: Filing factor. Those who need these skills and knowledges definitely felt dominated by the mechanical aspects of their work rather than by the need to possess a broad understanding of retrieval theory.

Factor 4: Computational factor. Beginning workers in bookkeeping and related jobs found attention to certain items (4-17, 5-58 through 5-61 and on) far more important than did any other workers, although over 60 percent of all new workers indicated a need to compute accurately.

Factor 5: Specialized typing. This factor may not represent any particular job, but rather a constellation of abilities some of which are frequently found linked together. For example, items 4-51, 4-52, and 4-55 suggest that occasionally a new worker will be asked to type minutes of a meeting. If so, it is highly likely that the same worker might also be expected to know how to type briefs and summaries, and/or table of contents. Although these functions are performed very rarely (see Table 2A), when one of them is required one or more others also are likely to occur. This illustrates an example of another caution to be observed in factor analysis interpretation: the size of a loading does not necessarily indicate how frequently a single item (variable) occurs, but rather it shows how strongly it is found or is not found together with certain others.

Factor 6: Receptionist factor.

Factor 7: Stenographic factor.

Factor 8: Insurance and finance factor. Some beginners find that they need some understanding of the kinds of insurance (6-10), how to read insurance policies (6-11), and how to read financial statements (6-13). Note from Table 2A, however, the low frequency of this demand.

Factor 9: Mail factor.

Factor 10: Customer accounting factor.

Factor 11: Language mechanics factor.

Factor 12: Filing and routing factor.

Factor 13: Self-effacing or social desirability factor.

Factor 14: Legal documents factor.

Factor 15: Telephone factor.

Factor 16: Business language or "cant." It is possible that language is so autonomous psychologically that new workers are not at all aware that they are indeed highly skilled in the specialized world of business linguistics. It is interesting to note, from the factor loading, that knowledge of common business terms (5-68), the different types of business organization (5-69), and how to use and read graphs and charts (5-70) are associates in this factor.

Factor 17: Write and type for readability factor. Beginning office workers realize, overwhelmingly, that legibility is most imperative in their jobs regardless of the nature of their work.

Factor 18: Postal card factor.

Factor 19: "Girl Friday" factor. A few, probably unusually capable stenographers in our sample, had already been given responsible jobs requiring ability to write high speed shorthand, ability to write telegrams, and to do cross-referencing.

Factor 20: Numerical transcription factor.

Factor 21: Financial typing factor. Some few particular jobs demanded that the employees be able to compose letters, type financial statements, and know when to use figures and symbols.

Factor 22: Advanced financial typing factor. This is similar to the financial typing but without emphasis on the more responsible tasks of composing letters.

Factor 23: Shipping goods factor.

Factor 24: Odd job typing and mailing factor.

Factor 25: Bookkeeping accuracy factor.

Factor 26: Memos and itineraries factor. Among a subset of the very capable stenographers, some had jobs which required ability to prepare memos and itineraries, but interestingly, did not demand the ability to take dictation rapidly, write telegrams, or do much cross referencing.

Factor 27: Petty cash factor. It is interesting to note that the ability to establish and maintain a petty cash fund is not associated with any other ability or knowledge, and thus is the only load in this factor.

Needed Skills, Knowledges, and Understandings as Revealed by Frequency of Workers' Responses

The preceding section has presented and discussed those skills, knowledges, and understandings which are associated with each other as determined by factor analysis. This section will observe the findings from a different angle based on the numbers and percentages of office workers who reported needing certain business skills, knowledges, and understandings in order to do their jobs.

Table 2A, Appendix C, sets forth detailed information with respect to the specific skills, knowledges, and understandings beginning office workers believe they need in order to perform their work, together with the numbers and percentages of workers responding to each item. The figures are presented in terms of all beginning office workers interviewed and by workers in each of the five job families.

A detailed analysis of that table will reveal a number of interesting points. Set forth here are a few of the observations that might be made based on the figures presented in Table 2A.

As will be noted, only 10 of the more than 170 originally listed knowledges, skills, and understandings were reported as being needed by half or more of the 522 beginning office workers. These are:

How to write numbers legibly	75%
How to spell correctly	70
How to do basic arithmetic	66
How to talk on the telephone effectively	64
How to write copy legibly	61
Knowledge of the different filing systems	56
How to sort materials for filing	56
How to type accurately at moderate speed	56
How to punctuate correctly	55
How to type figures, symbols, at moderate speed	52

It appears that the work performed by beginning office workers demands that they be able to write clear, legible figures, since this ability was reported as needed by 396 or 76 percent of all the workers interviewed. Furthermore, this ability was reported as needed by 41 or 91 percent of all the workers in the bookkeeping job family, by 249 or 78 percent of the clerical job family workers, by 50 or 60 percent of the workers in the machine operators job family, by 21 or 84 percent of the customer contact job family workers, and by 35 or 75 percent of the workers in the stenographic job family.

It is interesting to note that when the responses of the workers are considered by job family, knowledges, skills, and understandings needed by half or more of all workers are also those considered needed by half or more of all the workers in the clerical and the stenographic job families. However, these knowledges, skills, and understandings are also those needed by substantial numbers and percentages of workers in the bookkeeping, machine operator, and customer contact job families. Thus, even the ability to type figures and symbols at moderate rates of speed was reported needed by 20 percent of the workers in the bookkeeping job family and by 32 percent of the customer contact workers. Ordinarily, one would not expect persons who are identified with bookkeeping or customer contact work to need skills or knowledges of this nature, yet the variety of the job tasks performed by such workers does cause them to need and make use of abilities and knowledges ordinarily associated with other types of work.

A look at the opposite end of the spectrum suggests those knowledges, skills, and understandings that the beginning office workers do not perceive as needed for their jobs. It must be realized, before listing or considering these, that emphasis was placed by the interviewers, in discussing this matter with the interviewees, upon identifying only those items which the workers felt they needed to assist them in their jobs--rather than identifying those that they felt would assist them in their personal-business lives or those that might be of interest to them. The findings must be reviewed with this in mind.

A number of knowledges, skills, and understandings were reported by very few beginning office workers as needed in their work. Apparently these were perceived by the workers as being of no particular use on the job. Those mentioned by at least one worker but by no more than 10 (or 2 percent of the interviewees) are the following:

How to maintain a check register
How to record accruals and adjustments
How to keep perpetual inventory records
How to serve as secretary at meetings
How to keep a cash book

How to read time tables
How to type footnotes and bibliographies
How to maintain payroll records
How to maintain a petty cash fund
How to take dictation, high speed

Knowledge of safe means of carrying travel funds
How to compute payrolls with deductions
Knowledge of means of exchanging currencies
How to compute and record depreciation
Certain telephone skills (other than those previously indicated)

How to maintain fixed assets records
How to obtain passports and visas
How to prepare a budget analysis
How to design business forms
How to prepare a budget

Certain telegraph skills (other than those previously indicated)
How to prepare tax reports
Certain insurance and credit knowledges (other than those previously listed)

Some few abilities, knowledges, and understandings do stand out as being needed by special groups of workers. For example, at least 3 out of 5 (60 percent or more) beginning workers in the bookkeeping job family cited the following as important abilities needed in their work:

How to write numbers legibly
How to do basic arithmetic
How to write copy legibly
How to use short-cut arithmetic
How to figure percentages

The workers in the clerical job family reported seven skills, knowledges, and understandings as being particularly important to them. These, actually, correspond to the first seven identified as most important by all the workers interviewed. In the case of the machine operators, only two abilities seem to stand out: how to write numbers legibly (reported by 60 percent as needed), and how to spell correctly (reported by 62 percent of the workers in this category).

When the abilities and knowledges needed by the workers in the customer contact job family are observed, it is found that those reported as needed by 60 percent or more of the workers in this classification are also the first five reported by all workers interviewed. In addition, however, 60 percent of the workers in this job family indicated that they need to be able to use a telephone directory effectively. This is, of course, understandable in the light of the nature of the duties they perform.

A substantial number of skills, knowledges, and understandings appear to be needed by the workers in the stenographic job family, as is indicated by the fact that 35 were identified as necessary by 60 percent or more of the workers. Only those abilities and knowledges reported by 3 out of 4 (75 percent or more) of the workers in this job family are listed below:

How to spell correctly	100%
How to type letters	100
How to punctuate correctly	98
How to indicate enclosures and carbon copy notations	98
How to address envelopes	96
How to type memorandums	96
How to make neat corrections	94
How to type two-page letters	94
How to proofread material	92
How to place a letter on a page correctly	92
How to talk on the telephone effectively	91
How to prepare memorandums	91
How to type accurately at moderate speed	89
How to copy from handwritten notes	89
How to plan letter placement	85
How to correct dictator's errors	85
How to justify right-hand typing margins	85
How to type figures and symbols at moderate speed	83
How to estimate letter length	77
How to write numbers legibly	75

It is possible for the reader who wishes to do so, to identify those skills, knowledges, and understandings within any ability category that appear to be important. Thus, if he consults the interview guide in Appendix B, he will observe that the specific abilities and knowledges are classified according to their nature or subject area. By noting the IBM card and column number and then consulting Table 2A, he can determine frequencies for any specific ability within a given category. Thus of the arithmetic knowledges and abilities listed in the interview guide (IBM card 5, columns 58-67), it can be traced out that the ability to find and use shortcut methods and the ability to figure percentages are the two reported by the greatest number of office workers. Since, however, this is a somewhat cumbersome process for the person desiring this type of information, Table 3A presents the knowledge and ability items in the order in which they appear in the interview guide. Only the figures on the number and percentage of all the employees who indicated a need for the specified skill, knowledges, or understanding are indicated.

Strengths and Shortcomings of Beginning Office Workers as Perceived by Their Supervisors

The report of the study up to this point has dealt with various aspects of office job entry demands as seen through the eyes of beginning office workers. Upon the completion of each interview with the worker, it will be recalled that the interviewer then talked with the person who was designated as the supervisor to whom the worker was responsible. The attempt was made at this time to identify the outstanding strengths of the worker and to discover what the supervisor feels are the worker's major weaknesses. Each supervisor, after discussing with the interviewer these aspects of the worker, was then given the opportunity to offer suggestions as to how he feels the schools can improve their programs so as to provide better trained workers for the business office. The following discussion deals with these aspects.

As indicated in Tables 21, 22, and 23, the strengths and shortcomings reported are identified by broad areas according to their nature: i.e., skills, personal traits, and general. Although, of course, there is bound to be some overlapping, it seems, in the main, that the differences were rather well drawn. The data relative to each specific area are reported in such a way as to make comparisons and interpretation relatively easy. Therefore, only brief interpretation will be presented in narrative form in this report.

Skill Strengths and Shortcomings

It is apparent from the figures displayed in Table 21 that the supervisors were more inclined to discuss worker strengths than to dwell on worker weaknesses. It should also be observed that there does not seem to be very substantial agreement as to just what worker strengths and shortcomings really are. The supervisors indicated only two skill areas in which 10 percent or more of the workers interviewed were strong: general typing ability (applying to 60 workers or 12 percent of all workers interviewed) and the ability to operate machines (56 workers or 11 percent). However, it should be noted that supervisors indicated these same two skill areas as those in which the most workers were weakest.

Personal Trait Strengths and Shortcomings

Supervisors were a bit more definite and communicative in identifying personal trait strengths and shortcomings of the workers they supervise (see Table 22). Six traits were identified as strengths in 10 percent or more of the workers. These are the ability to interact with people (applying to 98 or 19 percent of the workers), speed of learning ability (83 or 15 percent); pleasing personality (71 or 13 percent); good personal appearance (55 or 11 percent), willingness to work (54 or 10 percent), and good attendance and punctuality (52 or 10 percent). It is interesting to note that three of the top most frequently cited worker strengths are social in nature, whereas the other (speed of

TABLE 21

SKILL STRENGTHS AND SHORTCOMINGS OF BEGINNING OFFICE WORKERS AS OBSERVED BY THEIR SUPERVISORS

Skill Areas	Strengths		Short-comings	
	No.	Pct.*	No.	Pct.
General typewriting ability	60	11.5	26	5.0
Machine operation abilities	56	10.7	12	2.3
Typewriting accuracy	43	8.2	10	1.9
Math application	41	7.9	5	1.0
Typewriting speed	29	5.6	7	1.3
Filing ability	27	5.2	11	2.1
General accuracy	22	4.2	8	1.5
General shorthand ability	13	2.5	8	1.5
Bookkeeping abilities	8	1.5	1	0.2
Telephone use ability	7	1.3	0	0.0
Ability to transcribe	6	1.1	1	0.2
Legibility of handwriting	6	1.1	2	0.4
Spelling ability	6	1.1	9	1.7
Proofreading ability	6	1.1	6	1.1
Ability to take dictation	4	0.8	2	0.4
Paperwork organization ability	4	0.8	0	0.0
English ability	3	0.6	3	0.6
Speed of work	3	0.6	3	0.6
Statistical typewiting ability	3	0.6	0	0.0
General work accomplishment	2	0.4	1	0.2
Duplicating ability	1	0.2	0	0.0
General letterwriting ability	0	0.0	1	0.2
Other skill areas	10	1.9	3	0.6

*Percent of all employees (522) concerning whom the observation was made.

NOTE: This table should be read as follows: Of the 522 employees included as subjects in this study, 60 or 11.5 percent were cited by their supervisors as being strong in general typewriting ability, whereas 26 or 5 percent were cited as being weak in this skill area.

learning) represents an aspect of intelligence.

Only two weaknesses seem to stand out and were cited as applying to at least 5 percent of the workers. These are lack of maturity (cited as applying to 40 or 8 percent of the workers interviewed) and poor attendance and poor

TABLE 22

PERSONAL TRAIT STRENGTHS AND SHORTCOMINGS OF BEGINNING OFFICE WORKERS AS OBSERVED BY THEIR SUPERVISORS

Personal Trait Areas	Strengths		Short-comings	
	No.	Pct.*	No.	Pct.
Interaction with people	98	18.8	10	1.9
Speed of learning	80	15.3	22	4.2
Pleasing personality	71	13.4	5	1.0
Personal appearance	55	10.5	7	1.3
Willingness to work	54	10.3	5	1.0
Attendance and punctuality	52	10.0	31	5.9
Adaptability	45	8.6	5	1.0
Initiative	41	7.9	20	3.8
Attention to duties	36	6.9	12	2.3
Interest in job	35	6.7	13	2.5
Intelligence	35	6.7	1	0.2
Acceptance of responsibility	24	4.6	9	1.7
Dependability	23	4.4	2	0.4
Good work habits	23	4.4	8	1.5
Neatness in work	14	2.7	4	0.8
Potential	14	2.7	2	0.4
Maturity	10	1.9	40	7.7
Accuracy	10	1.9	1	0.2
Seriousness	7	1.3	3	0.6
Organization of work	6	1.1	7	1.3
Effort put forth	4	0.8	0	0.0
Minds his own business	4	0.8	14	2.7
Emotional stability	3	0.6	6	1.1
Other personal traits	83	15.9	26	8.8

*Percent of all employees (522) concerning whom the observation was made.

punctuality (31 or 6 percent).

It is somewhat disappointing to observe that a number of personal traits that the workers themselves had earlier indicated were important or essential for success on their jobs (see Table 19) were not cited by the supervisors as outstanding strengths the workers themselves possessed. This may be accounted

TABLE 23

GENERAL STRENGTHS AND SHORTCOMINGS OF BEGINNING OFFICE WORKERS AS OBSERVED BY THEIR SUPERVISORS

General Areas	Strengths		Short-comings	
	No.	Pct.*	No.	Pct.
Knowledge of business terms and concepts	11	2.1	16	3.1
General knowledge of math	10	1.9	3	0.6
Knowledge of business organizations and practices	8	1.5	6	1.1
Ability to communicate orally	7	1.3	2	1.3
General English usage	7	1.3	7	1.3
Mechanical aptitude	4	0.8	0	0.0
General reading	3	0.6	2	0.4
English grammar knowledge	2	0.4	3	0.6
Knowledge of English composition	2	0.4	1	0.2
General vocabulary	2	0.4	4	0.8
Insurance understandings	1	0.2	0	0.0
Analytical ability	1	0.2	1	0.2
Knowledge of care of machine	1	0.2	0	0.0
Ability and willingness to estimate answers	0	0.0	1	0.2
Willingness to follow directions	0	0.0	2	0.4
Other	10	1.9	5	1.0

*Percent of all employees (522) concerning whom the observation was made.

for, at least in part, by the mechanics of the study. In effect, the workers were asked specific questions relative to personal characteristics needed; whereas the question directed to the supervisors was unstructured and open-ended. Nonetheless, this inconsistency should be noted.

General Strengths and Shortcomings

The worker strengths and weaknesses that the supervisors most wished to identify fall within the two previous broad areas (skills and personal traits). However, as indicated in Table 23, a few specific areas might most properly be grouped under a broad third area or general area. Very few suggestions were offered relative to worker strengths and shortcomings within this category; and only two specific areas were cited as strengths applying to 2 percent or more of the workers. These were knowledge of business terms and concepts (applying to 11 or 2 percent of all workers) and general knowledge of mathematics (10 or 2 percent). On the other hand, one of these two (knowledge of business terms and concepts) was cited as a major shortcoming applying to 16 or 3 percent of the workers.

It does not appear to be clear from the data obtained from this aspect of the study just what those persons responsible for supervising the work of beginning office employers really do feel are the strengths and weaknesses. Perhaps this fact alone is an important finding of the study.

Supervisors' Suggestions for Improving Preservice Preparation of Beginning Office Workers

Making positive suggestions as to ways by which the schools can improve the preparation of those who intend to enter the business office is often much more difficult than offering criticisms regarding what is being done. As has been pointed out, supervisors of beginning office workers, though most cooperative in every way and though quite willing to spend the necessary amount of time discussing the work of beginning employees and the preparation they brought to the job, nonetheless do not always feel themselves in a position to offer what they consider to be very helpful suggestions. However, some suggestions that business educators may wish to consider were made by the 353 supervisors interviewed, and are presented in Table 24.

Perhaps the surprising aspect is that so few agreed on what might be done to improve the preservice education of beginning office workers. Although some 80 different suggestions were offered, on only 5 of them were 10 percent or more of the supervisors in agreement. One in five (20 percent) of the supervisors

TABLE 24

SUPERVISORS' SUGGESTIONS TO IMPROVE PRESERVICE PREPARATION OF BEGINNING OFFICE WORKERS

Suggestions	Number Making Suggestions	Percent of all Supervisors Interviewed*
Give better understanding of math	69	19.5
Improve general quality of typing	54	15.3
Improve students' ability to spell	47	13.3
Improve filing skills	45	12.8
Give more emphasis to English	37	10.5
Improve students' ability to use machines	35	10.0
Offer keypunch and data processing instruction	25	7.1
Improve students' attitude toward work	23	6.5
Develop sense of responsibility	22	6.2
Teach responsibility to work according to best ability	21	6.0
Teach more about what business expects of its employees	20	5.7
Improve legibility of handwriting	17	4.8
Teach how to get along with people	16	4.5
Place stress on telephone skills	14	4.0
Stress punctuality	14	4.0
Develop attitude of full day's work for full day's pay	14	4.0
Teach dependability	13	3.7
Teach office etiquette and protocol	13	3.7
Improve students' speed and comprehension in reading	12	3.4
Encourage all students to take typing and stenography	11	3.1
Give more attention to students' appearance	10	2.8
Stress accuracy in work	10	2.8
Provide cooperative office practice	10	2.8
Encourage more students to take business course	9	2.5
Develop interest in work	9	2.5
Relate course work to principles of business	9	2.5
Stress dictation abilities	9	2.5
Improve ability to communicate	9	2.5
Give more emphasis to bookkeeping	9	2.5
Teach business organization	8	2.3
Teach ability to think logically	8	2.3
Stress writing (particularly composition)	8	2.3
Provide general accounting course for all	8	2.3
Teach students how to proofread	7	2.0
Put more emphasis on development of personal qualities	7	2.0
Give a broad general education background	7	2.0
Teach more about the business community	7	2.0
Stress quality work	6	1.7
Help students develop initiative	6	1.7
Improve discipline	6	1.7
Teach punctuation skills	6	1.7
Encourage part-time work experience	6	1.7
Give some knowledge of computer	5	1.4
Teach respect for older people	5	1.4
Improve guidance counseling for office work	5	1.4
Assist in developing more mature attitude	5	1.4
Schools should have less flexibility in error allotment	4	1.1
Help students prepare for interview	4	1.1
No suggestions to offer	30	8.4

*Only suggestions made by 1 percent or more of the 353 supervisors interviewed are reported here.

responding to the general topic feels that the schools should attempt to provide students with a better understanding of mathematics. In this, they seemed to include basic arithmetic as well as basic mathematics. There was some indication that the supervisors believe that a broader understanding of mathematics is good background for data processing and computer work which are playing an increasingly important role in the modern office.

Nearly 1 in 6 supervisors (15 percent) feel that the schools should attempt to improve the quality of the typewriting training, and more than 1 in 8 (13 percent) suggested that the schools give more emphasis to spelling. Improving the English of students and teaching students how to use office machines efficiently were the only other two suggestions offered by 10 percent or more of the supervisors interviewed.

If one looks at the suggestions in terms of their nature, he sees that most of the suggestions center about improving the preparation of students in skill areas and in personal areas. Examples of suggestions for improvement in the skills areas include the following:

Improve the students' handwriting
Improve ability of students to read with speed and comprehension
Develop students' ability to take dictation.

Among the suggestions made that might be considered to be examples of personal trait development are the following:

Improve the students' attitude toward work
Develop a sense of responsiblity
Teach how to get along with people
Stress punctuality.

From the findings reported here, it appears that relatively few recommendations for change in the preservice preparation of beginning office workers are offered by the supervisors of beginning office workers. This may, in turn, be accounted for by the supervisors' unwillingness or inability to identify in substantial detail the strengths and shortcomings of the workers they supervise.

Or it may be that the supervisors merely feel that the schools are doing the best possible job in terms of the abilities and other characteristics of the young people who enroll for study. Many of the suggestions made by supervisors tend to support the observations of some of the researchers whose studies are reviewed in the chapter on related research.

Or it may be that the supervisors merely feel that the schools are doing the best possible job in terms of the abilities and other characteristics of the young people who enroll for study. Many of the suggestions made by supervisors tend to support the observations of some of the researchers whose studies are reviewed in the chapter on related research.

CHAPTER VI

SUMMARY AND CONCLUSIONS

A great deal of time and effort has gone into the planning and conducting of this investigation, in the processing of the data obtained, and the writing of the report. The investigation was designed to determine where young people who leave the schools, either upon or before graduation, seek and obtain employment in the business offices in Connecticut, what jobs they are able to obtain, what job tasks they are assigned to do, and what they need to know in order to do well those tasks they are called upon to perform.

The procedure followed in obtaining the basic data needed to answer questions such as these were obtained by survey form sheets completed and returned by prospective employers of beginning office workers. On the basis of the information thus obtained, major employers of beginning office workers were identified and their cooperation sought in permitting the research team to enter their business offices and interview their workers. A carefully developed interview guide was used by the interviewers in order to standardize the questions to be raised with the interviewee and on which to record responses.

Over 1200 Connecticut business firms listed in the Dun and Bradstreet Million Dollar Directory, the Dun and Bradstreet Middle Market Directory, the Dun and Bradstreet Reference Book, and others recommended by the Connecticut State Employment Service were contacted as prospective major employers of beginning office workers. Letters explaining the purpose and nature of the study were written these firms; and they were requested to complete and return the survey form giving brief data concerning the type, nature, and size of the firm, in addition to the number of beginning office workers they employed within a specified period. Of the 1226 Connecticut business firms contacted, 824 or 67 percent responded providing the data requested. Those firms which, during the six-months period of time indicated, employed 5 or more beginning office workers who had had little or no previous full-time office experience and who had had little or no post-high school education, were identified as major employers of beginning office workers.

The cooperation of the 130 major employers thus identified was requested in permitting the research team to interview their beginning office workers. Favorable replies were received from 85 (or 65 percent) of the companies. Arrangements were made to interview the workers in each of these companies.

A total of 522 interviews were conducted with beginning office workers and with 353 supervisors of these workers (some were supervisors of more than one worker). It was observed that little additional useful information could be obtained by extending the number of interviews, and it was felt that the saturation point, relative to the data sought, was reached prior to the completion of the numbers of interviews indicated above.

The data obtained from the short survey forms and that recorded on the interview guide sheets were coded and processed manually and with data processing and computer equipment in the manner indicated in the preceding sections of this report.

Capsule Statements of Findings

The findings are set forth in detail in Chapters III, IV, and V. They are summarized in capsule form in the paragraphs which follow.

The Major Employers

1. Most of the major employers of beginning office workers, at least as represented by those who cooperated in the study, are located in the metropolitan areas of the state, particularly in the north central section (containing the

cities of Hartford and New Britain) and the south central section (containing the cities of New Haven and Waterbury).

2. A third of the major employers have a total payroll of over a thousand employees and a fourth, employ between 100-500 employees.

3. The median number of new office workers required annually to fill office job entry positions is 13.5. The range is from 2 to 755 new workers.

4. The current office job entry positions will continue to provide employment opportunities; and the requirements of these positions will remain essentially the same at least for the next 1 to 3 years.

5. Very few companies give training to beginning office employees, other than on-the-job training which is offered, largely, by the worker's supervisor.

6. Some firms carry on active recruitment programs in order to attract high school graduates into their business office jobs, and the high school appears to be the main target for recruitment. Other sources, however, which are used include the Connecticut State Employment Office, private employment agencies, classified and display advertisements, and workers recommended by the company employees. Walk-ins provide companies with a number of new workers.

7. Employing firms pay little attention to references given by prospective employees on the job applications. Companies frequently give tests to job applicants as a selective device. Although many different tests are used, the one most relied upon is an aptitude test and also a straight-copy typing test.

Who the Beginning Office Workers Are

8. Most of the beginning office workers are in the 18 or 19 year old category, and over 90 percent are under twenty-two years of age. Most are female and are single.

9. Most of the employees interviewed work in companies located in the north central region of the state; the next greatest number, in the south central region. Over 90 percent of the subjects work in regions in which the major cities of the

state are located.

10. The three major types of businesses employing the beginning office workers are manufacturing, insurance, and finance and real estate. These three accounted for over 85 percent of the beginning office workers interviewed.

11. Nearly two-thirds of the workers interviewed hold jobs that would be classified in the clerical job family, a sixth hold machine operation jobs, and the remainder hold jobs that might be included in stenographic and secretarial, bookkeeping and computational, and customer contact job families.

12. Two-thirds of the workers had had no office work experience of any kind before accepting work with their present company. The remainder had only limited office experience. The mean number of months of business office experience (including work on the present job) is 11.3.

13. The beginning office workers give credit to a friend or relative as the best source of assistance in obtaining their job with the present company. Of those who indicated that their high school gave them the most help, 3 out of 5 give their business teacher the credit for giving the most help in getting the job.

14. Only a third of the workers interviewed have a definite knowledge of the job to which advancement is possible from the present position. Over half have no knowledge whatever of advancement opportunities. Of those who have knowledge of such opportunities, 3 in 5 feel that they could be advanced on the basis of their present qualifications.

15. Nearly all workers graduated from high school, and over 80 percent graduated from a public high school in the state of Connecticut.

16. Only 1 in 4 employees have taken any training beyond high school, though more than 2 in 5 of the workers plan to continue their education along some line.

High School Preparation

17. About half of the beginning office workers took the business curriculum

in high school, and another 16 percent took the college-business curriculum.

18. The four courses taken by the greatest number of beginning office workers were:

Typewriting	83%
Bookkeeping	58
Shorthand	46
Business Arithmetic	36

19. The business courses identified by the workers as those that helped them the most on their jobs were typewriting and clerical office practice.

20. The non-business courses of greatest value to workers on the job were English grammar, general mathematics, and English composition.

21. The business courses consumer education and advertising appear to be the least helpful to beginning workers in the performance of their job tasks.

22. Four out of 10 workers feel that there are no knowledges or abilities that they need on the job that they did not acquire in high school. The only skill that they felt should have been developed to a greater extent was that of office machine operation. Furthermore, two-thirds of the workers felt that there was nothing they learned in school that could have been left to be learned on the job.

23. A third of the workers interviewed would make no changes in their high school program if they were taking their work over again. A quarter indicated that they would take more business courses.

24. A third of the workers feel that, since they left school, there has been no change in their attitude toward business. Of those who have changed, more than half were in a positive direction, 19 percent in a negative direction, and the direction of the change of the rest was not clear.

The Work Performed by Beginning Office Employees

25. There seems to be agreement between the job title given to the employee by the company and the "true job title" in about two-thirds of the cases.

26. The top three tasks of beginning office workers, based on TPT total (Task x number of Persons x Time devoted to task) are:

Filling in or completion of blank forms
Filing of correspondence and other records according to an established system
Typing letters and reports from rough drafts.

27. In the main, beginning office workers are not called upon to perform such tasks as the following:

Using a shorthand machine
Preparing annual reports of earnings and tax deductions
Taking minutes at staff meetings.

28. Only four pieces of office equipment are used by 10 percent or more of the beginning office workers interviewed. These are:

Ten-key adding machine
Photocopying machine
Full-keyboard adding machine
Typewriter (various models).

29. Certain pieces of equipment, such as the billing machine, are used by a limited number of workers for a great part of the day; whereas others, such as the photocopying machine, are used by many workers but for very little time each day.

30. The ten-key adding machine appears to be the one machine used by more workers in more job families than any other one machine.

31. Over two-thirds of the workers interviewed feel themselves to be efficient in the work they are doing, but their understanding as to just what efficiency means is not particularly clear.

32. Nearly two-thirds of the workers feel that the equipment and supplies the companies provide them to do their jobs are quite adequate to enable them to perform efficiently in their work situation. Some felt, however, that more up-to-date equipment would improve their efficiency on the job.

33. Only about half of the workers believe that the business skills or abilities they possess are being made full use of in their present positions.

The greatest dissatisfaction in this regard was expressed by workers in the clerical job family.

34. Typewriting, shorthand, and bookkeeping skills are most often cited as those of which full advantage is not taken by the companies.

35. More than 6 out of 10 workers feel some emotional strain in their jobs. The one aspect cited by the greatest number of workers as involving emotional strain is the pressure of work during unusually busy periods and when a given amount of work has to be completed within a specified time period.

36. Nearly 9 out of 10 workers feel that their supervisors are acquainted with the amount and quality of the work they perform.

37. Aspects of the job that beginning workers seem to like the best are the following:

Good co-workers
Variety of duties
Duties of the job are interesting.

The only complaint cited by a substantial number of workers was that the work was monotonous.

Knowledges, Skills, and Other Characteristics Needed by Beginning Office Employees

38. Two personal characteristics cited by beginning office workers as being important to success on the job stand out: (1) accuracy in the work and (2) a sense of responsibility. Other important characteristics indicated by the workers were:

Regularity of attendance
Dependability
Neatness of work
Being well organized
Ability to work well with supervisors.

39. A number of knowledges, skills, and understandings needed by beginning office workers are associated with each other. Thus, if a worker perceives that he needs a given skill, it is likely, also, that he needs certain other

well identified related skills (see details in Chapter V.)

40. Certain skills, knowledges, and understandings appear to be needed, regardless of the job family in which the worker's job is classified. These include:

How to write numbers legibly
How to spell correctly
How to do basic arithmetic.

The need for many other skills and knowledges varies depending upon the nature of the tasks assigned the worker in his beginning office job.

41. General typing ability and the ability to operate machines are the two skills that supervisors indicated as strengths in the greatest number of workers. However, other supervisors felt that these were the very skills in which workers are the weakest.

42. The three major personal trait strengths of beginning office workers, as indicated by their supervisors, appear to be the following:

Ability to interact with people
Speed of learning ability
Pleasing personality.

The two major weaknesses cited were a lack of maturity and poor attendance and punctuality.

43. General strengths cited as applying to the most (though a very limited number) beginning office workers were: a knowledge of business terms and concepts, and a general knowledge of mathematics.

44. Five suggestions most frequently made by supervisors relating to how the schools can improve the education of those who plan to enter the business offices are as follows:

Give students broader understanding of math
Improve the quality of typewriting training
Give more emphasis to spelling
Improve students' English
Teach students to use office machines more efficiently.

Capsule Statements of Conclusions

Specific conclusions may be drawn from each of the findings reported in the foregoing three chapters. Some are implied within those chapters. In the main, only a limited number of broad conclusions are presented here in brief form.

1. The greatest opportunities for young people who wish to obtain office job entry positions appear to be in the larger companies located in metropolitan areas.

2. It appears that there will continue to be a demand for workers in office job entry positions, particularly in the clerical job family.

3. Business firms do not acquaint their workers with the advancement opportunities open to them, nor do the workers seem to be much interested in finding out about such opportunities.

4. Certain courses taken in high school, both business and non-business courses, are particularly helpful to beginning workers in performing the work demanded in their jobs.

5. As beginning office workers perceive the situation, the schools seem to be doing a good job of providing the kinds and types of instruction that meet the needs of the workers in the office job entry positions.

6. There seems to be considerable difference between what the beginning office worker does on the job and what the job title he holds implies that he does on the job.

7. Beginning office workers are called upon to perform a wide variety of tasks involving the use of different types of equipment.

8. Many beginning office workers, though they feel that they perform their tasks efficiently, are not very well informed as to what efficiency really means.

9. There is considerable dissatisfaction among beginning office workers regarding the use being made of the office skills that they developed during their high school education.

10. Beginning office workers feel that their supervisors know the quality and amount of the work that they, the workers, perform, and therefore have a basis for evaluating that work.

11. The workers have very definite likes and dislikes concerning their office jobs, and are able to specify them.

12. Desirable personal characteristics are important to success in office job entry positions.

13. Since a number of knowledges, skills, and understandings needed in order to perform the assigned tasks are closely associated with each other, it may be able to identify certain needed knowledges and skills from any given one.

14. Certain knowledges, skills, and understandings are needed by most beginning office workers, almost regardless of the work to which they are assigned. The need for others is determined by the type of work to which the worker is assigned.

15. Supervisors of beginning office workers do not have a very clear idea of, or are not able to identify very definitely, the skill, personal trait, or general areas in which the beginning workers they supervise are strong, nor those in which they are weak.

16. Supervisors do have opinions regarding how the schools can improve the education of prospective office workers, but the opinions tend to be either somewhat vague or are stated in the broadest of terms.

Final Statement

It is not within the scope of the report of this study to make recommendations based either upon the findings and conclusions reported here or in the investigations reviewed in the chapter on related research (Chapter II).

The data were obtained and processed, and the findings are reported within these pages for the benefit of any who would like to make use of this study in taking a look at curriculum and courses or at their students or employees. The research team, authors of this report, conclude by expressing the hope that the findings presented here may be of some assistance to educators, to the business community, and to other interested persons.

APPENDIX A

Correspondence With and Matters Related to the Business Firms Contacted

THE UNIVERSITY OF CONNECTICUT
THE SCHOOL OF EDUCATION, U-93
STORRS, CONNECTICUT 06268

OFFICE EDUCATION STUDY
Dean R. Malsbary, Director

July 28, 1966

Mr. Richard Steele
President, Norwalk Company
North Water Street
Norwalk, Connecticut

Dear Mr. Steele:

In an attempt to provide better qualified workers for the modern business office and better business education in the high schools of the state, the Vocational Education Division of the Connecticut State Department of Education and the School of Education of the University of Connecticut have asked me to plan and conduct a study. In general, the purpose of the study is to determine how business education in the schools can best meet the needs of the young people preparing to enter office occupations and the needs of the business firms that hire them.

After discussing with a group of businessmen and educators the need for such a study and a number of possible approaches, it seems that a first step might be to determine who are the major employers of beginning office workers and for what types of jobs these workers are being employed.

Would you be willing to assist us in planning this introductory phase of the study by asking your office manager, personnel director, or other appropriate person in your company to complete the attached one-page survey form and return it to me in the enclosed self-addressed envelope? Thank you for your cooperation.

Very sincerely,

Dean R. Malsbary
Associate Professor of
Business Education

hb
encl.

SHORT SURVEY FORM

For Employers of Beginning Office Workers in Connecticut

1. Name of Company ______________________________

2. How many employees in your company are engaged in office work in this state and are therefore considered "office employees." ("Office employees" include bookkeepers and accountants, clerks, typists, stenographers and secretaries, receptionists, switchboard operators, payroll clerks, office machine operators, office supervisors, file clerks and supervisors, mail clerks, and similar workers. Do not include management personnel above the level of office manager or employees engaged primarily in the sales, production, delivery, maintenance, or similar aspects of company operations.)

   ____

3. In the six-month period from January 1 through June 30, 1966, how many beginning office employees did your firm hire? (A "beginning office employee," for purposes of this study, is a person employed to work in a Connecticut business office, who has had no previous full-time work experience, except summers, and whose formal education does not extend beyond high school.)

   ____

4. For what jobs were these people employed? (If possible, please list the jobs for which the beginning office employees were employed and the number of such workers employed for each job. If more space is needed, use back of this sheet.)

   Example:

Clerk-typist	4	Stenographer	6
Bookkeeping machine operator	1	Card key-punch operator	5
File Clerk	3	Total	19

   ______________________ ______________________

   ______________________ ______________________

   ______________________ ______________________

5. Name and official title of your company's chief office executive?

   ____

   ____

6. Name and title of person completing this survey form?

   ____

   ____

Thank you for your cooperation. Please return the completed form in the self-addressed stamped envelope to: Dean R. Malsbary, Director, Office Education Study, University of Connecticut U-93, Storrs, Connecticut 06286

SURVEY-SHORT FORM

For Employers of Beginning Office Workers in Connecticut

1. Name of company and correct mailing address______________________________

2. Total number of employees____________ ______________________________

3. Name of company's chief executive_________________Title_________________

4. Type of business in which company is engaged_____________________________

5. How many employees in your company are engaged in office work in this state and are therefore considered "office employees." ("Office employees" include bookkeepers and accountants, clerks, typists, stenographers and secretaries, receptionists, switchboard operators, payroll clerks, office machine operators, office supervisors, file clerks and supervisors, mail clerks, and similar workers. Do not include management personnel above the level of office manager or employees engaged primarily in the sales, production, delivery, maintenance, or similar aspects of company operations.)

6. In the six-month period from January 1 through June 30, 1966, how many beginning office employees did your firm hire? (A "beginning office employee" for purposes of this study, is a person employed to work in a Connecticut business office, who has had no previous full-time office work experience, except summers, and whose formal education does not extend beyond high school.)

7. In the nine-month period from January 1 through September 30, 1966, how many beginning office employees did your company employ?

8. To what jobs were the people assigned who were employed in the six-month period (as reported in No. 6 above)? (If possible, please list the jobs for which the beginning office employees were employed and the number of such workers employed for each job. If more space is needed, use back of this sheet.)
   Examples: Clerk-typist 3 Card key-punch operator 2

   _________________________________ _________________________________

   _________________________________ _________________________________

9. Name and official title of your company's chief office executive?

   _________________________________ _________________________________

10. Name and title of person completing this survey form?

   _________________________________ _________________________________

Thank you for your cooperation. Please return the completed form in the self-addressed stamped envelope to: Dean R. Malsbary, Director, Office Education Study, University of Connecticut U-93, Storrs, Connecticut 06286

THE UNIVERSITY OF CONNECTICUT
THE SCHOOL OF EDUCATION, U-93
STORRS, CONNECTICUT 06268

OFFICE EDUCATION STUDY
Dean R. Malsbary, Director

January 12, 1967

Mr. E. B. Knauft, Assistant Vice President
Aetna Life Insurance Company
151 Farmington Avenue
Hartford, Connecticut

Dear Mr. Knauft:

Thank you for completing and returning the one-page form on which we requested information about the number of office workers in your firm. As an employer of beginning office workers, your firm is in a position to assist us in completing the study designed to serve as the basis for improving the education of those who wish to prepare for office careers.

The study, being undertaken in cooperation with the State Department of Education and a committee of businessmen engaged in office and personnel work, deals with the work, needs, and training of those who secure employment in the offices of Connecticut's business firms. It seeks answers to such questions as: What are the office entry jobs, what abilities and knowledges does the worker need, and how well has his education and training prepared him for his work? The information is needed to assist the schools to evaluate their programs and to keep their curricula up to date if they are to meet the needs of students and of the business community.

The success of the study depends upon your cooperation in permitting us to interview your beginning office employees and their immediate supervisors. The attached sheet identifies more specifically the employees with whom we should like to talk.

Our interviewers can secure the needed information within the approximately thirty minutes budgeted for each interview. Inasmuch as the final report of the study is due by mid-year, we hope to complete all interviews in the cooperating companies by the end of March.

I could come to your office and work out with you a schedule of interviews, or perhaps you would prefer that I call you to discuss the selection of interviewees and the scheduling of interviews. Would you please indicate your choice of arrangements on the enclosed reply sheet and return it to me in the enclosed self-addressed envelope.

Your cooperation in this study will be a significant contribution to the preparation of better qualified office workers for the business firms of the state. Thank you for your assistance, and I look forward to hearing from you.

Very sincerely,

Dean R. Malsbary

hb

enclosures (3)

The University of Connecticut
OFFICE EDUCATION STUDY
(Explanatory Sheet)

Title of the Study - A Study of the Opportunities for, Requirements of, and Knowledges, Abilities, and Related Characteristics Needed by Beginning Office Workers in the State of Connecticut, with Implications for Business and Office Education.

Purpose of the Study - To provide a basis for the evaluation and up-dating of school programs and curricula in the light of the current needs of those who are preparing to enter office occupations.

Nature of the Findings Sought - The study seeks to answer such questions as:
What are the office entry jobs in business firms in the State of Connecticut?
What abilities and knowledges does the worker need to possess in order to succeed on the job?
How well has his education and training prepared him for his work?

Definitions

Office: A business's focal center engaged in clerical activities for handling information and communications.

Office employee: Includes company workers whose primary duties involve preparing, processing, recording, and filing communications and information within an office situation. This would include such employees as bookkeepers and accountants, clerks, typists, stenographers and secretaries, receptionists, switchboard operators, payroll clerks, office machine operators, office supervisors, file clerks, mail clerks, and the like.

Beginning office employee:
A person who has been hired by your company between June 1, 1966 and January 1, 1967; and
A person who had had no previous full-time business experience prior to your hiring him (except summers); and
A person whose highest level of education is no more than high school graduation; and
A person who is considered to be an office employee.

In larger companies in which several beginning office employees do essentially the same job, only a limited number of such employees will be interviewed. Example: Company X during the past few months has employed 26 clerk-typists who do basically the same work. Interviews will be requested perhaps with only 1 in 5 of these employees, randomly selected.

Director of the Study - Dr. Dean R. Malsbary, Associate Professor of Business Education

Graduate Assistants, who are also Interviewers -
Mr. John Burton
Miss Julie Carlson
Mr. William Paquette
Miss Patricia Snyder
Miss Nancy Whitehouse

Secretary - Mrs. Harriet Baker Office Telephone: 429-3311, Ext. 761

OFFICE EDUCATION STUDY--U-93
The University of Connecticut
(Reply Sheet)

Date____________________________

Name of Company____

Name and title of chief executive contacted____________________________

____

Please Check One:

_____A. We prefer to have Dr. Malsbary, Director of the Study, meet with us to identify subject employees and prepare a schedule of interviews. To arrange a suitable time for this purpose, he should telephone

Mr.
Miss___________________________ ______________________________________
Mrs. (name) (title)

Telephone No.______________________ Ext._________________________

_____B. We prefer to have the director of the study call us and discuss the possibility of our identifying the interviewees and scheduling interviews by phone. To arrange this, he should telephone

Mr.
Miss___________________________ ______________________________________
Mrs. (name) (title)

Telephone No.______________________ Ext._________________________

____
(name of person completing this form)

CONNECTICUT BUSINESS FIRMS (MAJOR EMPLOYERS) COOPERATING IN PHASE II OF THE STUDY IN WHICH BEGINNING OFFICE WORKERS WERE INTERVIEWED

Aetna Insurance Company
55 Elm Street
Hartford, Connecticut

Aetna Life Insurance Company
151 Framington Avenue
Hartford, Connecticut

American Chain and Cable Company
929 Connecticut Avenue
Bridgeport, Connecticut

American Enka Corporation
Brand Rex Division
West Main Street
Willimantic, Connecticut

Amphenol Borg Electronics Corp.
33 East Franklin Street
Danbury, Connecticut

Anaconda American Brass Company
414 Meadow Street
Waterbury, Connecticut

Arnold Bakers
Hamilton Avenue
Greenwich, Connecticut

The Armstrong Rubber Company
475 Elm Street
West Haven, Connecticut

Bard-Parker Company
Lemac Avenue
Danbury, Connecticut

Bartlett Tree Expert Company
P. O. Box 3067
Ridgeway Station
Stamford, Connecticut

Berger Brothers Company
135 Derby Avenue
New Haven, Connecticut

Branson Instruments
76 Progress Drive
Stamford, Connecticut

Bridgeport Brass Company
30 Grand Street
Bridgeport, Connecticut

Bristol Company
Bristol Street
Waterbury, Connecticut

The Bullard Company
286 Canfield Avenue
Bridgeport, Connecticut

Bureau of Business Practice
24 Rope Ferry Road
Waterford, Connecticut

Carpenter Steel Company
Seaview Avenue
Bridgeport, Connecticut

Charleton Publishing Company
Division Street
Derby, Connecticut

Chesebrough-Ponds, Incorporated
Clinton, Connecticut

Clinton National Bank
Clinton, Connecticut

Commercial Credit Corporation
17 Willow Street
Waterbury, Connecticut

and

80 Farmington Avenue
Hartford, Connecticut

Connecticut Bank & Trust Company
One Constitution Plaza
Hartford, Connecticut

Connecticut General Life
Insurance Company
Bloomfield, Connecticut

Connecticut Light & Power Company
P. O. Box 2010
Hartford, Connecticut

Connecticut Mutual Life
   Insurance Company
140 Garden Street
Hartford, Connecticut

The Connecticut Water Company
West Main Street
Clinton, Connecticut

Croft Educational Services
100 Garfield Avenue
New London, Connecticut

Dunham-Bush, Incorporated
179 South Street
West Hartford, Connecticut

Eagle Pencil Company
Danbury, Connecticut

Electric Boat Division
General Dynamics
Groton, Connecticut

The Electro Motive
   Manufacturing Company
South Park & John Street
Willimantic, Connecticut

Fairfield County Trust Company
300 Main Street
Stamford, Connecticut

Farrel Corporation
25 Main Street
Ansonia, Connecticut

Fawcett Publications, Incorporated
290 Railroad Avenue
Greenwich, Connecticut

First Federal Savings & Loan
   Association of New Haven
80 Elm Street
New Haven, Connecticut

First Federal Savings & Loan
Waterbury, Connecticut

First New Haven National Bank
One Church Street
New Haven, Connecticut

General Time Corporation
High Ridge Park
Stamford, Connecticut

and

Thomaston, Connecticut

and

Torrington, Connecticut

G. Fox & Company
958 Main Street
Hartford, Connecticut

G. N. Papers, Incorporated
Norwich Avenue
Taftville, Connecticut

Hartford Electric Light Company
176 Cumberland Avenue
Wethersfield, Connecticut

Hartford Insurance Group
690 Asylum Avenue
Hartford, Connecticut

Hartford Steam Boiler
   Inspection and Insurance Company
56 Prospect Street
Hartford, Connecticut

Hartford Times, Incorporated
10 Prospect Street
Hartford, Connecticut

The Home National Bank and
   Trust Company
16 Colony Street
Meriden, Connecticut

Hubbard-Hall Chemical Company
236 Grand Street
Waterbury, Connecticut

International Silver Company
500 South Broad Street
Meriden, Connecticut

Ivan Sovall, Incorporated
Pearl Street
Norwalk, Connecticut

J. Daren & Sons, Incorporated
237 Otrobando Avenue
Norwich, Connecticut

Kaman Aircraft Corporation
Old Windsor Road
Bloomfield, Connecticut

The Edward Malley Company
2 Church Street
New Haven, Connecticut

Mechanics Savings Bank
80 Pearl Street
Hartford, Connecticut

Mite Corporation
446 Blake Street
New Haven, Connecticut

Mutual Insurance Company
of Hartford
Box 1259
Hartford, Connecticut

New Britain National Bank
51 West Main Street
New Britain, Connecticut

New York, New Haven &
Hartford Railroad Company
54 Meadow Street
New Haven, Connecticut

Nationwide Mutual Insurance Companies
261 Skiff Street
Hamden, Connecticut

Northern Connecticut National Bank
120 Main Street
Windsor Locks, Connecticut

People's Savings Bank
Main & State Streets
Bridgeport, Connecticut

Phoenix of Hartford
61 Woodland Street
Hartford, Connecticut

Phoenix Mutual Life Insurance
Company
Hartford, Connecticut

Pratt & Whitney, Incorporated
Charter Oak Boulevard
West Hartford, Connecticut

Putnam Trust Company
10 Mason Street
Greenwich, Connecticut

Royal McBee
150 New Park Avenue
Hartford, Connecticut

Sage Allen & Company
884 Main Street
Hartford, Connecticut

Sargent Company
100 Sargent Drive
New Haven, Connecticut

Scoville Manufacturing Company
99 Mill Street
Waterbury, Connecticut

South End Bank & Trust Company
157 Main Street
Hartford, Connecticut

Southern Connecticut Gas Company
815 Main Street
Bridgeport, Connecticut

Southern New England Telephone
Company
227 Church Street
New Haven, Connecticut

Spencer Incorporated
135 Derby Avenue
New Haven, Connecticut

Spencer Turbine
486 New Park Avenue
Hartford, Connecticut

The Stanley Works
Lake Street
New Britain, Connecticut

State Labor Department
Employment Security Division
Main Street
Middletown, Connecticut

The State National Bank
of Connecticut
2834 Fairfield Avenue
Bridgeport, Connecticut

Terry Steam Turbine Company
Lamberton Road
Windsor, Connecticut

The Travelers Insurance Company
One Tower Square
Hartford, Connecticut

Ulbrich Stainless Steels
1 Dudley Avenue
Wallingford, Connecticut

Union and New Haven Trust Company
205 Church Street
New Haven, Connecticutt

The United Illuminating Company
80 Temple Street
New Haven, Connecticut

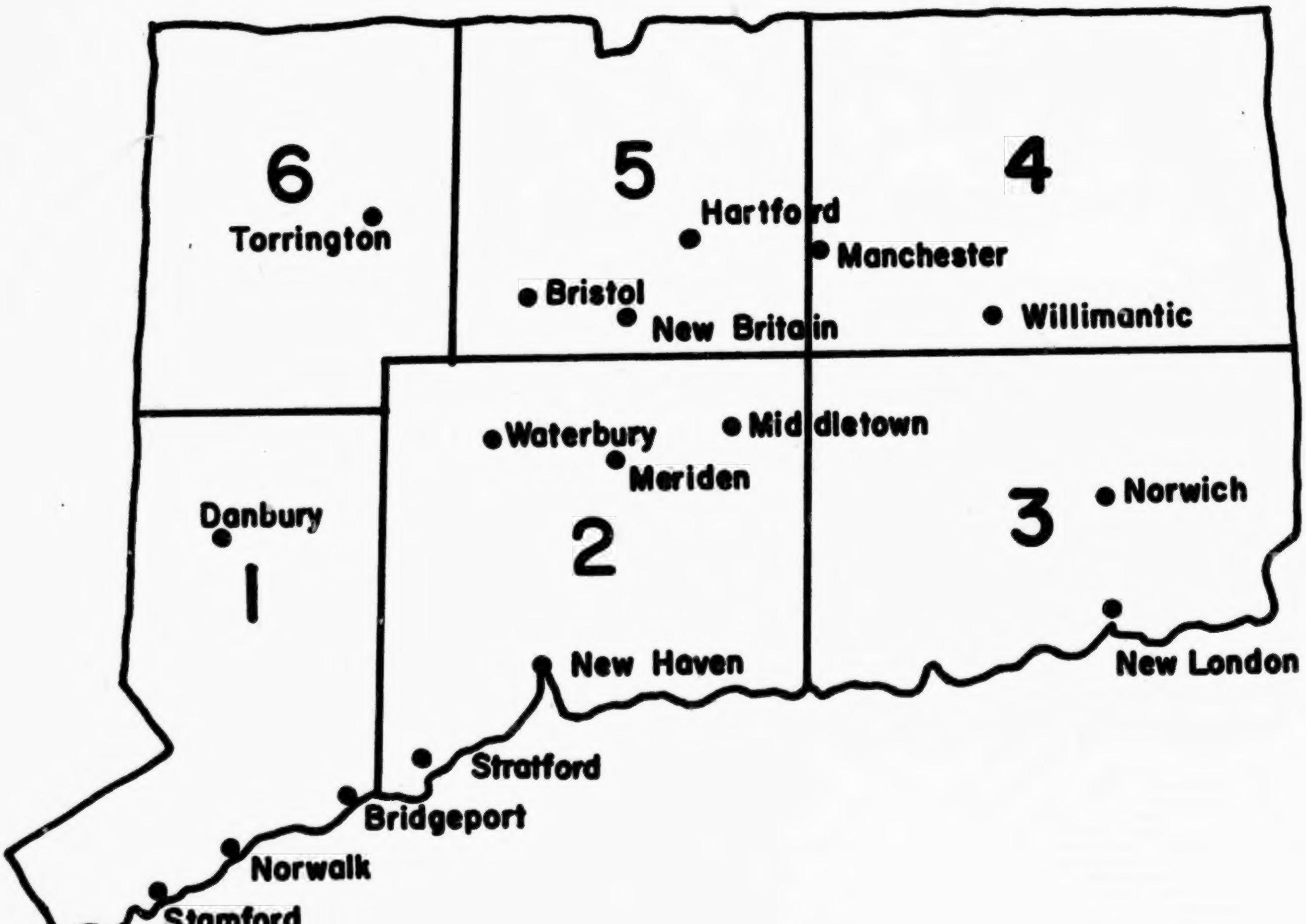
Wallingford Steel Company
Valley Street
Wallingford, Connecticut

Waterbury National Bank
195 Grand Street
Waterbury, Connecticut

Waterbury Republican & American
389 Meadow Street
Waterbury, Connecticut

White Tower Systems, Incorporated
580 Main Street
Stamford, Connecticut

REGIONAL AREAS OF THE STATE OF CONNECTICUT IN WHICH MAJOR EMPLOYERS AND INTERVIEWEES WERE LOCATED


6
Torrington
5
Hartford
Bristol
New Britain
4
Manchester
Willimantic
Waterbury
Middletown
Meriden
Danbury
1
2
3
Norwich
New Haven
New London
Stratford
Bridgeport
Norwalk
Stamford

APPENDIX B

Interview Guide, Instructions for Interviewers, and Coding Suggestions

Office Education Study Malsbary--University of Connecticut

INTERVIEW GUIDE

(Final Draft)

Introductory Section--Company Information

1. Name of No. of Company____

2. Address of Company____

3. Code Number____________________ 4. Type of Business____________________

5. Total number of workers________ 6. Total number of office workers________

7. Number of office workers in each category for which you employ beginning office workers (Job entry positions)

Category	Number	Annual Addition or Replacement

8. In the last column above, please estimate number of employees hired annually in each position.

9. Number of beginning office workers (as defined in study)________________

10. Do you have copies of job descriptions for job entry office occupations?

Yes___ No___

(Interviewer: If yes, ask if we may have a copy of each job description.)

Office Education Study INTERVIEW GUIDE (final draft)

Name of Company___________ Code_____ Interview No_____ Date_________________
(Begin Card 1) (1-4)

Part I Employee Information

I A. Employee Information-General

1. Name of employee (5-7)______________________________ (8) j. t.______

2. Sex: (9) Male___ Female___ 3. Are you married? (10) Yes___ No___
1 2 1 2

4. Date of Birth (11-12)____________
(year)

B. Employee Information-Employment

5. What office jobs (if any) have you held prior to beginning work for this company?

POSITION	NO. OF MONTHS EMPLOYED	PART-TIME	ONLY SUMMER	FULL-TIME
(13)	(14-15)	(16)		
(17)	(18-19)	(20)		
(21)	(22-23)	(24)		

6. On what date were you employed by this company on a full-time basis?
(25-26)__________

7. What jobs have you held in this company? (List present job first by exact title.)

POSITION	DEPT.	NO. OF MONTHS	PART-TIME	SUMMER	FULL-TIME
(27)	(28)	(29-30)	(31)		
(32)	(33)	(34-35)	(36)		
(37)	(38)	(39-40)	(41)		

8. Which one of the following assisted you the most in obtaining this job?
(42)
High School___ State Employment Office___ Private Employment Office___
1 2 3
Friend or Relative___ Newspaper Ad___ Walk-in___ Other(Specify)__________
4 5 6 7

a. If you obtained this job with the help of your high school, who in the school gave you the most assistance? (43)

Guidance Counselor___ Principal___ Business Teacher___
1 2 3
Non-business Teacher___ Other (Specify)________________________
4 5

9. To what job would you most likely be advanced, if promoted?
(In other words, what is the next job up from your present one?)
(44)____

a. Would your present education, training, and experience qualify you for a promotion to this job? Yes___ 1 No___ 2 Don't know___ 3

b. If no, what additional qualifications would you need? (46-47)

Additional education and training ___ 1

More experience on present job ___ 2

Self-improvement of present skills ___ 3

Take and pass proficiency tests given by company ___ 4

Others (Specify)____ 5

I C. Employee Information-Job Description

10. Describe your job briefly. (What do you do in a typical day?)

____

____

____

____

____

____

____

____

____

____

____

____

____

11. Here is a listing of office equipment commonly used by office workers like yourself. Please indicate the extent to which you use any of this equipment by checking the appropriate column.
(Begin Card 2; 1-8 identif.)

		Daily		
		Less than 1-hr. 1	1--3 hrs. 2	Over 3 hrs. 3
Adding machine, ten-key	(9)			
Adding machine, full keyboard	(10)			
Addressing machine	(11)			
Billing machine	(12)			
Bookkeeping machine	(13)			
Calculator, key-driven	(14)			
Calculator, printing	(15)			
Calculator, rotary	(16)			
Checkwriter	(17)			
Copyholder	(18)			
Dating machine	(19)			
Duplicator, fluid process	(20)			
Duplicator, stencil process	(21)			
Duplicator, offset	(22)			
Envelope opening machine	(23)			
Envelope sealer	(24)			
Flexowriter	(25)			
Justowriter	(26)			
Photocopying machine (Xerox, Thermofax, etc.)	(27)			
Postage meter machine	(28)			
Postal scale	(29)			
Shorthand machine	(30)			
Stamp affixing machine	(31)			
Telex machine	(32)			
Telephone switchboard	(33)			
Transcribing machine	(34)			
Typewriter, electric, pica	(35)			
Typewriter, electric, elite	(36)			
Typewriter, manual, pica	(37)			
Typewriter, manual, elite	(38)			
Typewriter, IBM Executive	(39)			
Unit record equipment:				
Card key-punch	(40)			
Verifier	(41)			
Reproducer	(42)			
Vari-Typer	(43)			
Others (please list)	(44-45)			
	(46-47)			
	(48-49)			
	(50-51)			

Office Education Study Page 4 (final draft)

12. Please indicate the specific activities or duties that you perform during a typical day in the office, and those that you perform only occasionally.
(Begin Card 3; 1-8 identif.)

Job A

	Daily			Occasionally	
	Less than 1-hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Accounting Clerk, Bookkeeper (8) A	1	2	3	4	5
a. Record transactions in journals direct from source documents (9)					
b. Post verbal and numeric data (10)					
c. Check and verify vouchers before posting (11)					
d. Reconcile bank statements (12)					
e. Take care of ledger forms (13)					
f. Take trial balance (14)					
g. Assist in writing reports (15)					
h. Undertake routine duties such as filing, mailing out customer bills, answering telephone (16)					
i. Compile reports to show cash receipts and disbursements (17)					
j. Prepare tax reports (18)					
k. Type and prepare monthly statements for customers (19)					
l. Others (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job B

	Daily			Occasionally	
Billing Clerk (8) B	Less than 1-hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
	1	2	3	4	5
a. Prepare invoices and bills of lading (9)					
b. Compute accounts due from such records as purchase orders, sales tickets, and charge slips (10)					
c. Type invoices, listing items sold, amounts due, credit terms and date of shipment (11)					
d. Type shipping labels (12)					
e. Type credit memos indicating return or incorrectly billed merchandise (13)					
f. Type credit forms for customers of finance companies (14)					
g. Others (15)					
h. (16)					
i. (17)					
j. (18)					
k. (19)					
l. (20)					
m. (21)					
(22-23)					
(24-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 Card ident. - End Card 3

Job C

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Bookkeeping Machine Operator (8) C	1	2	3	4	5
a. Use a bookkeeping machine to record business transactions of a receiving and standardized nature (9)					
b. Sort documents to be posted, such as checks and debit and credit items (10)					
c. Place appropriate bookkeeping forms on writing surface of machine and set carriage (11)					
d. Verify entries and summarize and balance totals to insure accuracy (12)					
e. Prepare periodic trial balance and other statistical information as required (13)					
f. Operate other office machines, such as adding and calculating (14)					
g. Others (15)					
h. (16)					
i. (17)					
j. (18)					
k. (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job D

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
File Clerk (8) D	1	2	3	4	5
a. File correspondence and other records according to an established system (9)					
b. Locate materials on request (10)					
c. Classify and index materials (11)					
d. Prepare and keep file reports (12)					
e. Prepare file folder labels (13)					
f. Prepare file papers for microfilming (14)					
g. Remove obsolete materials (15)					
h. Make cross-reference cards (16)					
i. Prepare tickler files (17)					
j. Repair worn or damaged files (18)					
k. Others (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job E

	Daily			Occasionally	
General Clerk (8) E	Less than 1-hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
	1	2	3	4	5
a. Write or type bills, statements, receipts, checks or other documents copying information from one record to another (9)					
b. Proofread records or forms (10)					
c. Count, weigh, or measure materials (11)					
d. Sort and file records (12)					
e. Receive money from customers and deposit money in bank (13)					
f. Address envelopes or packages by hand or with typewriter or addressing machine (14)					
g. Stuff envelopes by hand or with envelope stuffing machine (15)					
h. Answer telephone, convey messages, and run errands (16)					
i. Stamp, sort, and distribute mail (17)					
j. Operate office duplicating equipment (18)					
k. Stamp or number forms by hand or machine (19)					
l. Others (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job F

Key-punch Operator (8) F

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
	1	2	3	4	5
a. Prepare machine for punching (i.e. place cards in card feed, turn on machine switches and prepare program cards) (9)					
b. Produce punched cards from properly coded materials (10)					
c. Operate sorter and collater (11)					
d. Verify materials (12)					
e. Operate accounting machine (13)					
f. Others (14)					
g. (15)					
h. (16)					
i. (17)					
j. (18)					
k. (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
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(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job G

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Machine-transcriber Typist (8) G	1	2	3	4	5
a. Set up transcribing machine in preparation for transcription (9)					
b. Transcribe materials such as letters, reports, memos from some mechanical recording equipment (10)					
c. Transcribe from telephone recorders messages that have come in (11)					
d. Keep a file of records or discs (12)					
e. Erase records to prepare them for re-use (13)					
f. Others (14)					
g. (15)					
h. (16)					
i. (17)					
j. (18)					
k. (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
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(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job H

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Mail Clerk Messenger (8) H	1	2	3	4	5
a. Sort (9)					
b. Distribute (10)					
c. Route (11)					
d. Open and date stamp all mail (12)					
e. Have charge of postage meter (13)					
f. Operate other postal machines (14)					
g. Take mail to post office (15)					
h. Prepare materials for mailing (16)					
i. Weigh, seal, and stamp mail (17)					
j. Keep up-to-date on postal regulations (18)					
k. Pick up and deliver messages (19)					
l. Keep log of items received and delivered (20)					
m. Obtain receipts for articles delivered (21)					
Others (22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job I

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Payroll Clerk (8) I	1	2	3	4	5
a. Calculate earnings from time or production records ____ (9)					
b. Determine withholdings, deductions, and net pay ____ (10)					
c. Post individual payroll records and assist in preparation of pay checks ____ (11)					
d. Use office machines such as calculators, typewriters, etc. ____ (12)					
e Keep records of sick leave pay and non-taxable wages ____ (13)					
f. Prepare and distribute pay envelopes ____ (14)					
g. Prepare annual reports of earnings and income tax deductions ____ (15)					
h. Others ____ (16)					
i. ____ (17)					
j. ____ (18)					
k. ____ (19)					
l. ____ (20)					
m. ____ (21)					
____ (22-24)					
____ (25-27)					
____ (28-30)					
____ (31-33)					
____ (34-36)					
____ (37-39)					
____ (40-42)					
____ (43-45)					
____ (46-48)					

Col. 80 ident. - End Card 3

Job J

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Proof Machine Operator (8) J	1	2	3	4	5
a. Sort, record, and prove records of bank transactions, such as checks, deposit slips, and withdrawal slips, using proof machine (9)					
b. Position items in machine to be endorsed and grouped automatically, or manually sort items (10)					
c. Total tapes and locate, correct, and record errors (11)					
d. Prove deposits, checks, debits and credits listed on batch sheet (12)					
e. Attach tapes to sorted batches and prepare recapitulation sheet (13)					
f. Others (14)					
g. (15)					
h. (16)					
i. (17)					
j. (18)					
k. (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
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(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job K

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Teller (8) K	1	2	3	4	5
a. Receive checks and cash for deposit verifies amounts and examines checks for endorsement (9)					
b. Enter deposits in depositor's passbooks or issue receipts (10)					
c. Cash checks and pay out money upon verification of signatures and customer balances (11)					
d. Place "holds" on accounts for uncollected funds (12)					
e. Order supply of cash to meet daily needs, count incoming cash, and prepare cash for shipment (13)					
f. Compute service charges, file checks, and accept utility bill payments (14)					
g. Photograph records, using microfilming device (15)					
h. Sell domestic exchange travelers checks, and savings bonds (16)					
i. Open new accounts, and compute interest and discounts (17)					
j. Others (18)					
k. (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-48)					

Col. 80 ident. - End Card 3

Job L

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs	Weekly	Monthly
Stenographer (8) L	1	2	3	4	5
a. Take dictation from one or more persons (9)					
b. Transcribe above dictation on a typewriter (10)					
c. Use a shorthand machine (11)					
d. Answer telephone and take messages (12)					
e. Operate various office machines (13)					
f. Others (14)					
g. (15)					
h. (16)					
i. (17)					
j. (18)					
k. (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job M

Secretary (8) M	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
	1	2	3	4	5
a. Take dictation and transcribe it on typewriter (9)					
b. Schedule appointments for employers (10)					
c. Arrange for airline tickets and hotel reservations for employers (11)					
d. Make arrangements for social functions (12)					
e. Handle confidential records (13)					
f. Read and route incoming mail (14)					
g. Locate and attach appropriate file to correspondence to be answered by employer (15)					
h. Place outgoing calls (16)					
i. Answer telephone and give information to callers or route calls to appropriate official (17)					
j. Keep personnel records (18)					
k. Take minutes at staff meetings (19)					
l. Supervise clerical workers (20)					
m. File correspondence, cards, and business papers (21)					
Others (22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-48)					

Col. 80 ident. - End Card 3

Job N

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Switchboard Operator (8) N	1	2	3	4	5
a. Operate a single or multiple position PBX telephone switchboard (9)					
b. Keep records of calls and tolls (10)					
c. Operate the intercom or paging system (11)					
d. Act as receptionist (12)					
e. Relay incoming calls (13)					
f. Act as an information clerk (14)					
g. Assist in training new employees (15)					
h. Others (16)					
i. (17)					
j. (18)					
k. (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
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(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job 0

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Typist Clerk (8) 0	1	2	3	4	5
a. Compose and type routine correspondence (9)					
b. Fill in or complete blank forms (10)					
c. Type letters and reports from rough draft (11)					
d. Type form letters (12)					
e. Type tables and statistical material (13)					
f. Type messages on telegraphic forms (14)					
g. Prepare stencils or offset masters (15)					
h. Type cards, envelopes etc. (16)					
i. Verify totals on report forms, requisitions, or bills (17)					
j. File correspondence, cards, and business papers (18)					
k. Others (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job P

Coding Clerk (8) P	Daily Less than 1 hr. 1	 1--3 hrs. 2	 Over 3 hrs. 3	Occasionally Weekly 4	 Monthly 5
a. Convert routine items of information obtained from records and reports into code for processing onto card (9)					
b. Decode coded items (10)					
c. Manually record alphabetic, alpha-numeric, and numeric codes in prescribed sequence on document margin (11)					
d. Others (12)					
e. (13)					
f. (14)					
g. (15)					
h. (16)					
i. (17)					
j. (18)					
k. (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job Q

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Customer Service Representative (8) Q	1	2	3	4	5
a. Take service orders from customers (9)					
b. Give information to customers (10)					
c. Investigate customer complaints (11)					
d. Adjust customer complaints (12)					
e. Keep records of transactions with customers (13)					
f. Call customers concerning the status of customer accounts (14)					
g. Collect money from customers payments (15)					
h. Others (16)					
i. (17)					
j. (18)					
k. (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job R

	Daily			Occasionally	
	Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Worksheet Clerk (8) R	1	2	3	4	5
a. Compile unassembled data (9)					
b. Calculate rates or payments due (10)					
c. Code information from a type of legend (11)					
d. Record information into records from source documents (12)					
e. Others (13)					
f. (14)					
g. (15)					
h. (16)					
i. (17)					
j. (18)					
k. (19)					
l. (20)					
m. (21)					
(22-24)					
(25-27)					
(28-30)					
(31-33)					
(34-36)					
(37-39)					
(40-42)					
(43-45)					
(46-48)					

Col. 80 ident. - End Card 3

Job X

		Daily			Occasionally	
		Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
Machine Operator (8) X		1	2	3	4	5
a. Teletype	(9)					
b. Flexowriter	(10)					
c. Vari-Type	(11)					
d. Multilith	(12)					
e. Addressograph	(13)					
f. Duplicator	(14)					
g. Blueprint	(15)					
h. Autotypist	(16)					
i. Others	(17)					
j.	(18)					
k.	(19)					
l.	(20)					
m.	(21)					
	(22-24)					
	(25-27)					
	(28-30)					
	(31-33)					
	(34-36)					
	(37-39)					
	(40-42)					
	(43-45)					
	(46-48)					

Col. 80 ident. - End Card 3

Job Y

_______________ (8) Y
(job title)

		Daily			Occasionally	
		Less than 1 hr.	1--3 hrs.	Over 3 hrs.	Weekly	Monthly
		1	2	3	4	5
a.	(9)					
b.	(10)					
c.	(11)					
d.	(12)					
e.	(13)					
f.	(14)					
g.	(15)					
h.	(16)					
i.	(17)					
j.	(18)					
k.	(19)					
l.	(20)					
m.	(21)					
	(22-24)					
	(25-27)					
	(28-30)					
	(31-33)					
	(34-36)					
	(37-39)					
	(40-42)					
	(43-45)					
	(46-48)					

Col. 80 ident. - End Card 3

Unclassified Job Tasks Z

a. Minor arithmetic computation by hand

b. Minor arithmetic computation by machine

c. Run errands, picking up and delivering materials

d. Balance totals

e. Verify computations

f. Extend totals

g. Send telegrams

h. Collate materials

i. Type memorandums

j. Take inventories

k. Type checks

l. Prepare new file cards

m. Remove carbons

n. Receive and record payments on loans, mortgages, etc.

o. Receive and record payments on bills

p. Record changes in records from source data

q. Type in missing information on duplicated letter

r. Do routine non-skilled tasks

s. Compute interest

t. Handle Christmas Club accounts

u. Decollating--Sorting

v. Put materials in alphabetic or numeric order

w. Write reports from raw data

x. Read and interpret tables or charts

y.

z. Other

(Begin Card 4; 1--8 identif.)

13. In order to do your job, do you need to be able to: Yes

Type accurately at a moderate rate of speed (30-50 wpm)__________(9)______
Type accurately at a high rate of speed (over 50 wpm)__________(10)______
Take dictation at a moderate rate of speed (60-90 wpm)__________(11)______
Take dictation at a high rate of speed (over 90 wpm)__________(12)______
Transcribe accurately at moderate rates of speed (25 twpm)__________(13)______

Transcribe accurately at high rates of speed (over 25 twpm)__________(14)______
Type figures and symbols at a moderate rate__________(15)______
Type figures and symbols at a high rate__________(16)______
Do basic addition, subtraction, multiplication, and division__________(17)______
Spell correctly__________(18)______

Punctuate correctly__________(19)______
Write numbers legibly__________(20)______
Write copy legibly__________(21)______

14. Please check those skills, knowledges, and understandings which you need to know to do your job.

ABOUT COMMUNICATIONS

Telephone

How to talk on the telephone effectively__________(22)______
How to use a telephone directory__________(23)______
Classes of telephone service, such as person-to-person calls__________(24)______
How to operate an office switchboard__________(25)______
Other:__________(26)______

Telegraph

Type of telegraph service, such as full-rate telegram, night letter, etc.__________(27)______
How to write telegraphic messages__________(28)______
Other__________(29)______

Written Communications

Special classes of mail (first, parcel post, etc.)__________(30)______
Special mail service (money order, special del., etc.)__________(31)______
When to use figures and symbols instead of words__________(32)______
How to proofread typed or printed material__________(33)______
How to compose letters__________(34)______
How to prepare memorandums (interoffice)__________(35)______

Typing Functions--How to type:

Letters (36)_____
Memorandums (37)_____
Postal cards (38)_____
Index cards (39)_____
Itineraries (40)_____

Speech notes (41)_____
Outlines (42)_____
Business forms (43)_____
Charts & graphs (44)_____
On ruled lines (45)_____

Reports & manuscripts (47)_____
"Fill-in" business forms (48)_____
Two-page letters (49)_____
Copy from handwritten notes (50)_____
A table of contents & indices (51)_____

Notes & minutes of meetings (52)_____
Footnotes & bibliographies (53)_____
Financial statements (54)_____
Briefs & summaries (55)_____
Legal documents (specify)_____(56)_____

Materials in columns and column headings (46)_____
Others:_____(57)_____
_____(58)_____
_____(59)_____

Typing knowledges--How to:

Plan footnotes (60)_____
Spread headings (61)_____
Address envelopes(62)_____

Use off-size stationary (63)_____
Justify right margins (64)_____
Make neat corrections (65)_____

Plan letter placement_____(66)_____
Estimate letter length_____(67)_____

Chain feed envelopes_____(68)_____
Place letter on page correctly_____(69)_____
Indicate enclosures and carbon copy notations_____(70)_____
Set up and rule tables and table headings_____(71)_____
Prepare masters for duplicating_____(72)_____
Others:_____(73)_____
_____(74)_____

Secretarial Knowledges--How to:

Route mail in the office (use of routing slips)_____(75)_____
Correct dictators errors_____(76)_____
Serve as secretary at meetings_____(77)_____
Receive or refuse callers_____(78)_____
Schedule appointments_____(79)_____

Col. 80 card identif. - End Card 4

(Begin Card 5; 1 - 8 identif.)

ABOUT FILING

The different filing systems (alphabetic, geographic, numeric, subject, soundex)_____(9)_____
Commerical alphabetic systems_____(10)_____
Filing equipment and supplies normally used_____(11)_____
How to set up and arrange folders in file drawers_____(12)_____

How to sort materials for filing__________ (13)
How to prepare correspondence for filing__________ (14)
How to code, index, and file correspondence and business papers__________ (15)
How to cross-reference materials__________ (16)
How to locate correspondence papers that have been filed__________ (17)

How to transfer files__________ (18)
How to maintain a prospect file__________ (19)
How to establish a filing system__________ (20)
Others:__________ (21)
__________ (22)

ABOUT FINANCIAL RECORDKEEPING AND BOOKKEEPING

How to keep stockroom records__________ (23)
How to establish and maintain a petty cash fund__________ (24)
How to record transactions in a two-column General Journal__________ (25)
How to maintain a check register__________ (26)
How to keep a cash book__________ (27)

How to use controlling accounts__________ (28)
How to maintain customers and creditors accounts__________ (29)
How to record purchases and purchase returns__________ (30)
How to maintain special journals__________ (31)
How to post ledger accounts__________ (32)

How to record interest on notes and accounts__________ (33)
How to maintain records on fixed assets__________ (34)
How to compute and record depreciation__________ (35)
How to record accruals and other adjustments__________ (36)
How to keep a perpetual inventory record__________ (37)

How to close accounts__________ (38)
How to extend and total invoices__________ (39)
How to figure and prepare invoices and credit memos__________ (40)
How to prepare and maintain payroll records__________ (41)
How to take inventory__________ (42)

How to prepare tax reports__________ (43)
(Which ones?)__________ (44)
How to prepare a budget__________ (45)
How to prepare a budget analysis__________ (46)
How to prepare a trial balance__________ (47)

How to prepare work sheets (48)
How to prepare statements of financial conditions (49)
How to use business forms as a basis for bookkeeping entries (50)
How to compute payrolls with deductions (51)
How to prove your work (52)

How to locate and correct errors in accounts (53)
How to design business forms (54)
Others: (55)
(56)
(57)

ABOUT ARITHMETIC

How to find and use shortcut methods (58)
How to handle fractions (59)
Decimal equivalents of fractions (60)
How to figure percentages (61)
How to make payroll computations

How to compute markups and markdowns on goods or merchandise (63)
How to figure discounts (cash, trade, chain, etc.) (64)
How to estimate answers (65)
Others: (66)
(67)

ABOUT GENERAL BUSINESS

The use of common business terms (68)
The basic difference between the major types of business organizations (proprietorship, partnerships, etc.) (69)
How to read and use charts and graphs (70)
How to use common reference publications (such as the steno manual, tax guides, hotel directories, etc.) (71)
(Which ones?)

Money and Banking

The services banks offer (72)
How to maintain checking accounts (73)
How to endorse checks (74)
How checks are paid and cleared (75)
How to stop payment on checks (76)
Others: (78-79)

Col. 80 card identif.- End Card 5

(Begin Card 6, 1-8 identif.)

Insurance and Credit

Types and sources of business financing ____________ (9)
Different kinds of insurance coverage ____________ (10)
How to read insurance policies ____________ (11)

Credit rating agencies ____________ (12)
How to read financial statements ____________ (13)
Others: ____________ (14)
____________ (15)
____________ (16)

Travel and Transportation

The different types of public transportation available ____________ (17)
How to use the services of a travel agency ____________ (18)
How to make travel arrangements ____________ (19)
How to select and make reservations ____________ (20)
How to read time tables ____________ (21)

Safe means of carrying funds when traveling ____________ (22)
Means of exchanging currencies ____________ (23)
How to obtain passports and visas ____________ (24)
Others: ____________ (25)
____________ (26)
____________ (27)

Shipping of goods

Methods by which goods may be shipped ____________ (28)
How to prepare packages or materials for shipment ____________ (29)
Others: ____________ (30)
____________ (31)

OTHERS: (Is there anything else, other than what has been covered, that you need to know or be able to do in order to do your job?)

____________ (33-40)

15. In your present position do you feel that you are: (48) Very efficient?___ 1 Efficient?___ 2 Fairly efficient?___ 3 Not very efficient?___ 4

    a. Why? (49)___

16. What equipment and/or supplies, if available, would help you to work more efficients. (50)___

    a. Could you operate the equipment, if any indicated above, without additional training? (51) Yes___ 1 No___ 2 Don't know___ 3

17. If you were interviewing a person for the position you are now holding, what would be the degree of the following characteristics that he or she would need in order to be successful on this job?

		Unimportant 1	Desirable 2	Essential 3
be neat and well groomed	(52)			
display a willingness to be helpful	(53)			
be able to adapt to change	(54)			
have a sense of responsibility	(55)			
be dependable	(56)			
be able to accept constructive criticism	(57)			
possess self confidence	(58)			
be enthusiastic	(59)			
be well organized	(60)			
be able to work well with supervisors	(61)			
be able to work well with fellow workers	(62)			
be able to work well with the public	(63)			
possess initiative to see what needs to be done and to do it	(64)			
display willingness to perform unpleasant tasks	(65)			
exercise judgement in making decisions	(66)			
be regular in attendance	(67)			
have a real interest in his work	(68)			
be loyal to the company and employer	(69)			
be neat in his work	(70)			
be accurate in his work	(71)			
be able to express himself orally	(72)			
be able to express himself in writing	(73)			
possess sense of humor	(74)			
Others:	(75-78)			

Col. 80 card identif. - End Card 1

18. In your job do you use your skills and abilities to the extent you would like to use them? (52)

Yes___ No___ Don't know___
1 2 3

a. If no, which ones? (53)____

____

19. What aspects of your job involve emotional strain? (54, 55)________________

____

____

20. Do you believe that those for whom you work are acquainted with the amount and quality of the work that you do? (56)

Yes___ No___ Don't know___
1 2 3

21. What do you like about your present job? (57-59)__________________________

____

____

22. What do you dislike about your present job? (60-61)_______________________

____

____

Part II. Employee's Preparation for the Job

(Begin Card 7; 1-8 identif.)

1.

Name of High School		Location Town and State		Grades Attended
________________	(9-10)	________________	(11)	10____ 11____ 12____
________________	(12-13)	________________	(14)	10____ 11____ 12____
________________	(15-16)	________________	(17)	10____ 11____ 12____

2. Year of Graduation (18)____________

3. Are you now taking, or have you taken, any post-high school courses or training? (19) Yes___ No___
1 2

   a. If yes, where? (20) Adult Educ.___Jr. College___Four-year College___
   A B C
   Business School___Company Training Program___Others______________
   D E F

   b. If yes, what courses or training have you taken? (21)______________

   c. If yes, what is or was the purpose of the extra courses or training? (22-23) Personal use___Proficiency of your present job___Prepare
   1 2
   yourself for another job___Other____________________________
   3 4

4. Do you plan to take any future courses or training? (24) Yes___ No___
Maybe___
1 2 3

5. What curriculum did you follow in high school? (25) Business___ College-Business___College Preparatory___General___Other______________
1 2 3 4 5

6. Of the courses other than business which you took in high school, which have benefited you the most in your present position?

___Algebra (26)
___Art (27)
___Biological Science (28)
___English Grammar (29)
___English Literature (30)
___English Composition (31)
___French (32)

___General Science (33)
___General Math (34)
___Geometry (35)
___German (36)
___History (37)
___Home Economics (38)
___Latin (39)

___Music (40)
___Physical Sciences (41)
___Spanish (42)
___Other (43-50)
____
____
____

7. What courses other than business, do you wish you had taken to prepare you better for your job? (51-60)______________________________
____

   a. Why? (61-65)______________________________________

Col. 80 card identif. - End Card 7

Office Education Study Page 33 (final draft)

(Begin Card 8; 1-8 identif.)

8. What business education courses did you take in high school?

No. of Years		Relative Rank	No. of Years		Relative Rank
___	Advertising (9)	(10)___	___	General Business (29)	(30)___
___	Bookkeeping (11)	(12)___	___	Office Practice, Secretarial (31)	(32)___
___	Business Arithmetic (13)	(14)___	___	Office Practice, Clerical (33)	(34)___
___	Business English (15)	(16)___	___	Office Machines (35)	(36)___
___	Business Law (17)	(18)___	___	Recordkeeping (37)	(38)___
___	Business Organization (19)	(20)___	___	Salesmanship (39)	(40)___
___	Consumer Education (21)	(22)___	___	Shorthand (41)	(42)___
___	Cooperative Office Training (23)	(24)___	___	Transcription (43)	(44)___
___	Economic Geography (25)	(26)___	___	Typewriting (45)	(46)___
___	Economics (27)	(28)___	___	Others (47,48)________	(49)___
			___	________(50,51)________	(52)___

a. Rank these in order of importance to your job.

9. What knowledges, skills, or understandings do you need in terms of the job you are now doing that you did not develop in school? (53-58)__________

____

a. Which of these should you have learned in school? (59-64)__________

10. What skills or knowledges learned in high school do you think should have been left to be learned on the job? (65-69)__________________________

11. Since you have been working in a business office, has your "feeling" toward the business world or business office changed from that which you had during your high school days? (70)

Yes___ No___
1 2

a. If yes, in what ways? (71-73)__________________________________

12. If you were beginning high school again, how would you change your program? (74-79)____

____

Col. 80 card identif. - End Card 8

Part III Questions to be Directed to the Company

III A. To be filled out prior to contacting supervisor or other company official

1. Name of beginning employee interviewed______________________________

2. Title of job held by beginning employee interviewed________________

3. Name and title of beginning employee's immediate supervisor (62)

   ____

B. Questions pertaining to employment:

4. Will this job be continued in the immediate future (1-3 years) essentially as it is? (63)

   Yes___ No___ Don't know___
   1 2 3

   a. If no, will it be: (64) Eliminated___ Merged___
   1 2

   Other (specify)_______________________
   3

5. Do you plan to make changes in the requirements for entrance into this job? (65)

   Yes___ No___ Don't know___
   1 2 3

   a. If yes, what changes do you expect to make? (66)______________

6. What orientation or job training programs, if any, does the company provide for the worker entering this position? (67-68)

   ____

7. Which of the following screening devices are used for hiring and/or placing new personnel? Interviews (69)___ Personal reference (70)___

   Tests (indicate type) (71)___School recommendations (72)___

   Other (please specify) (73)____

   ____

8. From what source(s) do you usually obtain your personnel?

   High Schools (74)___State Employment Office (75)___Walk-ins (76)___

   Classified Ads (77)___Private Employment Agencies (78)___

   Others (specify) (79)____

Col. 80 card identif. - End Card 2

III C. Questions pertaining to employee:

9. Please indicate those areas in which this worker has strength or shortcomings

Skill Areas	Strengths	Short-comings	Comments
______	(41) ______	(45) ______	______
______	(42) ______	(46) ______	______
______	(43) ______	(47) ______	______
______	(44) ______	(48) ______	______
Personal Areas			
______	(49) ______	(54) ______	______
______	(50) ______	(55) ______	______
______	(51) ______	(56) ______	______
______	(52) ______	(57) ______	______
______	(53) ______	(58) ______	______
General Areas			
______	(59) ______	(63) ______	______
______	(60) ______	(64) ______	______
______	(61) ______	(65) ______	______
______	(62) ______	(66) ______	______

10. What suggestions would you offer to assist the schools to prepare better office workers for this type of job? (67-79)

____

____

____

____

____

Col. 80 card identif. - End Card 6

Office Education Study (final draft)

INSTRUCTIONS FOR INTERVIEWERS

General Information

Pick up any job descriptions if available or get full bibliographical information on job information sources. Emphasize that the information will be treated as confidential.

If at all possible, have interviews with interviewees and supervisors in separate facilities (particularly, if there are two or more interviewers.)

Advise the company that a girl should not report for an interview until the interviewer is ready.

When using dittoed interview guide forms, please record responses so that someone in the office will be able to transfer the information onto the new coded forms.

Remember that we are guests of the company and that we represent the University of Connecticut. Before leaving the company, be sure to thank the supervisors, interviewees, and others with whom you have dealt. The Director of the study will write the appropriate company officials after all interviews have been completed.

Be sure to note those who would like a copy of the study or any other pertinent information. After each set of interviews, go over the interview guides and smooth out any rough notes that might be confusing or hard to read.

Check all interview guides to make sure the correct number of pages are there and that the guide does not become unfastened during the interview. Bind all the interviews together for each company with an elastic band and deposit in the file cabinet in the School of Education, Room 436.

Company Information (Introductory Page 1)

Questions 1 - 10 - Be sure to get as complete information as possible for introductory page 1. The totals and category numbers are very important. These questions will be listed on the top sheet of the interview guide. This information will be recorded only once for each company, therefore, be sure to keep all interview guides together.

Questions No. 5, 6, 7 - Answers to these three questions may not be available until we arrive at the company. They should be obtained from the personnel director or other middle-management person.

Question No. 5 - "Total number of workers"--Here we are interested in the total payroll of the company (Connecticut workers only). Please indicate whether the figure indicates workers at interview location only or also at other Connecticut locations.

Question No. 6 - "Total number of office workers,"--Include here all office workers at the first line supervisor level and below.

Question No. 7 - Include here only those jobs which an employee can enter without previous experience and for which no more than a high school education is required.

Part I - Employee Information(Questions 1 - 22)

Answers to these questions must be recorded accurately and concisely by the interviewer. Indicate "no answer" by writing NA in the space under the question. If the interviewee indicates that he does not know the answer to a question, write in DK (doesn't know). This will avoid any confusion as to whether the interviewee did not want to answer a question or did not know the answer.

No Answer will also serve as a response if for some reason a question is skipped by the interviewer.

Question No. 3 - We are only interested in whether the interviewee is now married. We do not need to know if he or she was married or is divorced or widowed.

Question No. 4 - We will compute age when we return if the age factor is needed. We were able to obtain "Date of Birth" easily on the practice interviews.

Question No. 5 - List the most recent job first and account for the past two years. Prior jobs held with this company will be listed under question number 7. We want to record number of months worked in order to use as computed information. The computer will not convert dates. Also note the column for previous full-time work.

Question No. 7 - Again list the most recent job first. If the worker has participated in a cooperative work experience program through his high school, note this by writing "co-op" next to the listing and check either "full" or "part-time" work as the case may be. Under "position," we need the exact title, get this title from either her supervisor or from the personnel director. Again, we need the number of months worked instead of the dates.

Question No. 9 - "Promotion" must represent a change of title and an increase of pay. Try to get an indication of what the next job is regardless of whether the interviewee wants the job or not.

Question No. 10 - This is to get the person being interviewed thinking about what it is he does in a typical day. We want those things that come to mind immediately. We will get more detailed activities in later questions. The response to this question will also help orient the interviewer.

Question No. 11 - This item may be used as a hand-out sheet on which the interviewee will check the equipment he uses and the approximate amount of time he uses each type. Watch the interviewee to be sure that he has not skipped any machines. If he indicates in later or earlier sections the use of any machines, check to see if the machines are checked off on this list. In the interest of completeness, make sure that you ask for "any other machines" that the interviewee might use in the office before proceeding to the next question.

Question No. 12 - Included here are listings of some typical jobs (A through R). Select most appropriate one as related to the job the interviewee holds. If job is one for which we do not have a job sheet, use job sheet that is most appropriate and list duties under "Others." (If no listed job is appropriate, use the blank sheet on page 23 labeled Y.) Have the interviewee read the items as suggestive of the types of duties or activities the interviewee undertakes in the office, and record check in the appropriate time column. If the duties are only occasional ones, indicate by an "R" if it is for relief or replacement when someone else is busy or out. Otherwise record occasional duties as to number of times per week or month each duty is performed. Note that some persons may be doing duties that are commonly thought to be duties of others. In this case the interviewer may wish to suggest job activities listed under other job titles or "Unclassified Job Tasks Z" in the interview guide to assist the interviewee to recall his activites. The appropriate tasks performed should be recorded.

Each interviewer should have a copy of the job title legend. The letters and titles on the legend page correspond with the letters on the top of pages 4-24. This should make it easier for you to locate the appropriate job title.

Questions No. 13 - 14 - Have the interviewee sit at right and observe as you explain the checkoff ("yes", "no" for question 13-- and check only for question 14). In this way, the interviewee gets the full benefit of your explanation and can then check off items on his own. Watch the interviewee as he proceeds through the sheets and completes each section. Be sure to ask, with regard to each section, "Is there anything else that you need to know or be able to do in order to perform your job?" If so, record.

Note that if "legal documents" (p. 26), "tax reports" (p. 27), or "common reference publications" (p. 28) are checked, information needs to be supplied regarding the type.

We would hope to make good use of the open-end characteristic of this question by encouraging the interviewee to volunteer knowledges, skills, and understandings that he needs to know which are not included on the printed list. The OTHER listed on the bottom of page 29 refers to any phase of business knowledge or understanding that the interviewee should know or be able to do in order to do his job.

Question No. 17 - Here the interviewee should record the intensity or degree to which he feels a person should possess each personal characteristic in order for that person to be successful in the job the interviewee now holds. Explain carefully, going over one or two items, and then let the interviewee check the appropriate columns.

Questions No. 21 - 22 - Try to get specific suggestions (not just "it's interesting" or "I don't like it.")

Part II--Employee's Preparation for the Job (Questions 1 - 12)

Question No. 6 - Use as a check list and record any comments the interviewee may give as special reasons for indicating some subjects.

Question No. 8 - Indicate how many years each was taken. We will convert to semesters when we return.

Question No. 8a - The word "these" refers only to those business subjects that the interviewee has indicated taking in high school. It does not refer to the complete list. Try to get a complete ranking. The top two or three and the last one. Also some courses may have the same rank number.

Question No. 9a - Circle those which had been listed in question number 9. Do not relist them in 9a.

Part III Questions to be Directed to the Company (Questions 1 - 10)

Question No. 3 - Record here name and title of person you interview as interviewee's supervisor.

Question No. 9 - Here the purpose is to obtain or elicit from the supervisor the skill, personal, and general areas in which the employee interviewed is strongest and those in which he has shortcomings.

Skill areas would include such abilities as typing, machine operation, transcription, etc--i. e. performance abilities.

Personal areas would include characteristics such as those listed in number 17 page 30 of the interview guide.

General areas would include such business knowledges and understandings (not skills) as those identified in question numbers 13 and 14, knowledges and understandings contributing to occupational intelligence.

Question No. 10 - Try to keep the supervisor thinking and talking in terms of the job held by the worker interviewed. The tendency might be for the supervisor being interviewed to think in terms of strengths and weaknesses of all beginning office workers. We want specific suggestions concerning the beginning workers over which the supervisor exercises supervision.

Office Education Study

CODING SUGGESTIONS
(IBM Cards 1-8)

(final draft)

Card 1

p. 1 (1-4): Consecutive numbering of 0010 to identify company
1 - type of business
2 & 3 - company identification
4 - location by region

(5-7): Consecutive numbering from 001 to identify employee interviewed. (no legend)

(8): Code true job title (whether or not it agrees with given job title) in terms of what he actually does, based on yellow pages and p. 19.

(11-12): Punch last two digits of birthdate.

(13, 17, 21): Ignore for coding purposes, but check to be sure all listed on these lines represent office work.

(14-23): Punch 2 digits of months employed (we are not interested in where or in what type of jobs so long as it was office work.)
14-15 - for part-time only
18-19 - for summer only
22-23 - for full-time only
[Omit entirely (13, 16, 17, 20, 21, 24)]

Note: If, for example, 3 part-time jobs, add three together to determine number of months.

(25-26): Convert month and year to number of months

(27): Code "1" if what is written here agrees with true job title in (8) above. If not, code "2."

(28): Code "1", "2", or "3", depending on the number of departments employee has been in. (We will not make use of titles of positions or name of departments.)

(29-30): Code total number of months in all positions listed (part-time, summer, full-time).

(36): Code jobs (prior to present job) held with this company as to:
1 - if all previous company jobs were part-time
2 - if all previous company jobs were summer work
3 - if all previous company jobs were full-time
4 - if previous jobs were any combination of above.

(31, 32, 33, 34, 35, 37, 38, 39, 40, 41): - do not code - use information on these lines as indicated above.

(42): "Which one" - be sure to check only one here. If the check is in "other," we will use Row 7 on card but not specify by legend.

(43): One check only. If "other," no legend.

p. 2 (44): Use legend below
- 1 - don't know
- 2 - none
- 3 - only general notion of next step up
- 4 - know specific job to which could be advanced

(46-47): If "other" indicated, check and use Row 5. Limit to two checks in section 9b. No legend for "other."

Card 2

p. 3 Item 11

(44); For "other," use double column, single-letter legend (open end for additions).

(44-45): 44, 46, 48, and 50--single alphabetic office machine code letter.

(46-47): 45, 47, 49, and 51--to indicate time used--"1," "2," or "3"

Note: Z in alpha. code used only for machines not coded or not on p. 3 of guide.

(See legend attached - to be expanded as needed.)

Note: When coding "others" record letter in appropriate position and check appropriate column.

Note: On interview guide p. 3 encircle all checks, and write "1," "2," "3" in red at top of the three time columns.

Card 3

p. 4 - Item 12 This is a very important section. Coder must code "other" duties beginning (22). First two columns of 3-column provisions are to be used for coding of duty appearing on another yellow page. Third column of the three is to be used to record amount of time. Example: You are working with an Accounting Clerk, Bookkeeper (8)A and find that, in addition to duties listed the employee also performs these activities:

Operates accounting machine (daily 2 hours)
Puts records on microfilm (occasionally - weekly)

These would be coded as follows (use caps only)

FE2 Note: Job letter first, Task letter second.
KG4

Z - record on Z page other duties not printed on previous yellow pages.

X and Y will be coded in similar fashion. Any person whose main job is the operation of a machine, and who does not fit under any previous job title, will be considered and classified as a Machine Operator (Job X).

If his major machine operation is that of a Flexowriter, for example, the number of hours a day he operates the machine is recorded in the appropriate column. No other machine operations, other than his major machine work, should be recorded on this page. However, other duties performed by the employee should be recorded in the usual fashion in column 22-48.

If we run across a beginning office job which is most unusual and for which it would not be wise to set up a separate job classification, use Y.

Sheet Z (unclassified job tasks) will list duties no where else indicated in previous yellow pages.

General Note: Do not use, on any item 12 sheet, any single number "other" code. Use double letter only if "other."

End Card 3

Card 4

p. 25 - Item 13 - Note to key puncher: Punch only "yes" responses and use Row 1. Ignore "no" responses.

Item 14

(26) (telephone "other") (see legend attached)

(29) (telegraph "other") (see legend attached)

p. 26 (57, 58, 59) (typing functions "other") (see legend attached)

(73, 74) (typing knowledges "other") (see legend attached)

End Card 4

Card 5

p. 27 - Item 14

(21, 22) About filing "other" (see legend attached)

(44) (which tax reports) (see legend attached)

p. 28 - Item 14

(55-57) About financial recordkeeping etc. "other" (see legend attached)

(66, 67) About arithmetic "other" (see legend attached)

(71) About general business "which ones" (see legend attached)

(78, 79) Money and banking "other" (see legend attached)

End Card 5

Card 6

p. 29 - Item 14

(14-16)	Insurance and credit "other" (see legend attached)
(25-27)	Travel and transportation "other" (see legend attached)
(30-31)	Shipping of goods "other" (see legend attached)

p. 29 - Item 14

(33-40)	"Other" (see legend attached)

Card 1 (con't)

p. 30 (49)	(see legend attached)
(50)	(see legend attached)
(75-78)	(see legend attached)

Note: Code letter in (75, 77) and as appropriate "1," "2," or "3" in (76, 77). Limit to two.

End Card 1

Card 2 (con't)

p. 31 (53)	(see legend attached)

(54, 55)	(see legend attached)
(57, 58, 59)	(see legend attached)
(60-61)	(see legend attached)

Card 7

p. 32 (9-17)	Use legend (double letter). See attached coded sheets from Connecticut State Education Directory. Note: Use XX for out of state school. Note Preparatory schools.
(18)	Key punch last digit only. If no high school grades punch "7." If other that 1960's, punch "8." Punch "9" for dropout.
(20)	(see legend attached)
(21)	(see legend attached)
(22)	No legend. Column 22 punch "4" for "other." (Limit-2)
(25)	No legend. Column 25 punch "5" for "other."
(43-50)	(use legend attached)
(51-60)	(use legend attached)
(61-65)	(use legend attached)

End Card 7

Card 8

p. 33	Beginning (9), code double any figure appearing under "No. of Years," thereby converting to semesters.
(47-52)	(use legend attached) Code: (47) and (50) by subject, (48) and (51) by time taken, and (49) and (52) by importance rank.
(53-58)	(use legend attached)
(59-64)	(use legend attached)
(65-69)	(use legend attached)
(71-73)	(use legend attached)
(74-79)	(use legend attached)

End Card 8

Office Education Study   CODING SUGGESTIONS (con't)   (final draft)

Card 2 (con't)

p. 34 (62-79)	Note: We will treat this with company information. Omit in initial card punch operations.

Card 6 (con't)

p. 35 (41-48)	Skill Areas - (use legend attached)
(49-58)	Personal Areas - (use legend attached)
(59-66)	General Areas - (use legend attached)
(67-79)	(use legend attached)

End Card 6

Note on (41-66): Provision has been made for recording, in each of the three areas, four strengths and four weaknesses except in Personal where five may be used. During the coding process, the items need to be properly classified as to area and as to strength and shortcomings. The actual coding (the code letters themselves) will appear in the blank spaces to the right of the appropriate column numbers.

GENERAL SUGGESTIONS

1. All coding should be done in red with red ink pen.
2. On the interview guide sheets, all column 1-8 information should be fully entered for each new card to be made. Also column 80 card identification should be noted.
3. After interview guides are fully coded, we shall separate pages by card numbers.
4. We can add to legends (particularly alpha) as we progress, but we cannot change column numbers.

Office Education Study LEGEND (final draft)

Page 3, Item 11, Card 2 "Other" (44-45, 46-47, 48-49, 50-51)

A	Sorter
B	Offset Printer
C	Teletype
D	Tellers' Machine
E	Decolator
F	Burser
G	TWX
H	Interpretor
I	Enclosing Machine
J	Toll Burster
K	Bill Burster
L	Stapler (Automatic)
M	Joggler
N	Payroll Machine
O	Check Signing Machine
P	Proof Machine
Q	Telegram
R	Videograph Scanner
S	Adding Punch Tape
T	Collator
U	Check Signor & Protector
V	Multi-lith
W	Encoder
X	Magnetic Tape Selectric Typewriter
Y	
Z	Other, Audit Machine, etc.

Supplemental list of above

1	Audit Machine
2	Coupon Cutter
3	Blueprint Machine
4	Cummings Purchase for Coupon Books
5	Lifter
6	Graph-o-type
7	Change Counter
8	Validating Machine
9	Change Giving Machine
10	Check Cancelling Machine
11	Tape Recorder
12	Hand Operated Numbering Machine
13	MTST Machine

Page 25, Item 14, Card 4

Telephone "Other" (26)

A	Take Telephone Messages
B	How to Use Push-Button Phone
C	Direct Dialing Codes
D	Call Director
E	PBX Directory
F	Place Conference Calls
G	
Z	Other

Telegraph "Other" (29)

A	Send Telegrams
B	Delivery & Distribution
C	
D	
E	
F	
G	
Z	Other

Page 26, Item 14, Card 4

Typing Functions "Other" (57, 58, 59)

A	Typing Labels
B	On IBM Cards
C	Typing on Western Union Telegram Machine
D	
E	
Z	Other

Typing Knowledges "Other" (73-74)

A	Making Carbon Copies
B	
C	
D	
E	
Z	Other

End Card 4

Office Education Study LEGEND (final draft)

Page 27, Item 14, Card 5

About Filing "Other" (21, 22)

A	
B	How Microfilm Records are Used
C	To Sort, Arrange, or Locate IBM Cards
D	Tickler Files
E	
Z	Other

Which Ones? (44)

A	
B	Federal Income Tax Returns
C	
D	
E	
Z	Other

Page 28, Item 14, Card 5

About Financial Recordkeeping, etc. "Other" (55, 56, 57)

A	Preparation of Expense Reports
B	Records of Certificates of Deposits & Accrual Sheets
C	
Z	Other

About Arithmetic "Other" (66, 67)

A	
B	Figure Interest on Accounts
C	
Z	Other

Which Ones? (71)

A	(Represents that, though 71 checked, no one publication specified)
B	Company Directory or Reference Manual
C	Town or City Directory
D	Secretarial or Stenographic Manual
E	Dictionary
F	C and D Above
G	Post Office Directory
H	Signature Cards
I	Atlas
J	Dunn & Bradstreet
K	Tax Guide
L	Stock Guides
M	C and K above
N	Card File for Mailing
O	
Z	Other

Money and Banking "Other" (78, 79)

A	Writing Checks
B	Handling of Petty Cash Receipts
C	
D	
E	
F	
G	
H	
I	
J	
K	
L	
M	
N	
O	
Z	Other

End Card 5

Page 29, Item 14, Card 6

Insurance and Credit "Other" (14, 15, 16)

A	
B	Have Some Knowledge of Pension Plans
C	
Z	Other

Travel and Transportation "Other" (25, 26, 27)

A	
B	
C	
Z	Other

Page 29, Item 14, Card 6

Shipping Goods "Other" (30, 31)

A	Forms for Overseas Shipment
B	
C	
Z	Other

Other (33-40 incl.) (Some appearing in handwriting here may be of nature that appear in immediately foregoing sections, but were overlooked. Reassign to proper section.)

A	Knowledge of Company Operations
B	Interpret Company Forms
C	Change Tapes on Dictating Machines
D	How to Read
E	How to Talk with People
F	Cut Bond Coupons
G	Knowledge of Computer Programming
H	Knowledge of Algebra, Geometry, Trigonometry
I	Read Blue Prints
J	Care and Cleaning of Equipment
K	Transfer and Sales of Stocks and Bonds
L	How to Prepare Company Time Sheets
M	Read Tapes for Computer
N	
O	
Z	Other

Page 30, Item 15a, Card 1 (49)

"Why" (49)

A	Don't Know
B	Supervisor or Others Who Know My Work have so Informed Me.
C	Does Exactly What is Requested
D	Works to Best of Ability
E	Get No Complaints about My Work
F	Know How to Do Job and Does It
G	Completes Work Accurately and Quickly
H	Completes Work Accurately
I	Learning Work as It is Being Performed
J	Could Work Better if Fewer Interruptions
K	Job so Simple Anyone Could do It
L	Has Ability to Adapt to Changing Conditions
M	C and H Above
N	Insufficient Skills, Knowledges & Understandings
O	Work Gets Dull
P	Don't Get Criticized
Q	Wastes Time
R	Completes Work Quickly
S	Inadequate System
T	Likes Work
U	Learns Quickly
V	Sufficient Skills, Knowledges, and Understandings
W	Above & Beyond the Call of Duty
X	Had Good Training
Y	Unbalanced Work Load
Z	Other

Page 30, Item 16, Card 1 (50)

A	New Models of Equipment
B	Modern Supplies
C	Additional Supplies (Quantity)
D	Additional Equipment (Quantity)
E	Equipment to Better Perform the Job Now Being Done by Hand or by Other Equipment
F	A & B
G	A & D
H	None
I	Equipment more Accessible
J	Don't Know
K	
Z	Other, Machine Manuals

Page 30, Item 17, Card 1 (75-78)

A	Commonsense
B	Ambition
C	Ability and Willingness to Learn
D	Interest in Other People
E	Patience
F	Poise and Composure
G	Like Repetitious Work
H	Aptitude for Machine Work
I	Be Able to Follow Directions
J	
K	
Z	Other

Office Education Study LEGEND (final draft)

Page 31, Item 18a, Card 2 (53)

A	Typewriting
B	Shorthand
C	Typewriting and Shorthand
D	Bookkeeping
E	Art
F	Math
G	Secretarial
H	Personality (or Personal)
I	Creative
J	Job too Simple
K	Switchboard Operation
L	Use Stated Skills to Greater Extent
M	Cognitive Processes
N	Making Value Judgments
O	Working with the Public
P	Machine Work
Q	English
R	
S	
T	
U	
V	
W	
Z	Other, Foreign Language, Postage Background

Page 31, Item 19, Card 2 (54, 55)

A	Presure of Work during Busy Periods and Within Time Limits
B	Unevenness of Work Load
C	Trying to Find Errors
D	Having to Get Along with People in the Office
E	Dealing with Customers
F	Talking on the Telephone
G	Sitting or Standing in One Place all Day
H	Duties of the Job
I	Noise and Environment Distractions
J	Working with Boss when He is Irritable
K	Excessive Supervision (Supervisor around too much)
L	Monotonous Repetition of Work
M	Rush Jobs
N	None
O	Interruptions
P	When Expected to Do Something, Don't Know How.
Q	Getting Work Back to Correct
R	Don't Know
S	Concentration
T	Doing Work Others Won't Do
U	Too Much Work
V	Dealing with Money that must be Accounted for
W	
Z	Other

Page 31, Item 21, Card 2 (57, 58, 59)

A	Nothing
B	Variety of the Duties
C	Working with the Supervisor the Supervisor
D	Good Co-Workers
E	Opportunity to Meet People
F	Duties of the Job Interesting
G	Typing Functions
H	Office Atmosphere & Environment
I	Working on Machines
J	Not Being Rushed
K	The Pay
L	Keep Busy all the Time
M	Good Working Hours
N	Location of the Job
O	Learn Much on the Job (about Co., the Work, etc.)
P	Opportunity for Better Job, Good Field to get Into
Q	Work with Figures
R	Work is not Difficult
S	Fringe Benefits
T	Involves Considerable Thinking
U	Fair Degree of Privacy
V	No Close Supervision
W	Like Everything
X	Telephone Work
Y	Sense of Accomplishment
Z	Other

Page 31, Item 22, Card 2 (60, 61)

A	Nothing
B	Duties of Job
C	Pay
D	Monotonous Work
E	Not Much to Do
F	Not Much Opportunity for Advancement
G	Uneven Work Load
H	Pressure of Too Much Work
I	Trying to Locate Errors
J	Filing Duties
K	Work not Challenging, too Simple
L	Work Hours Inconvenient
M	Supervision
N	Dealing with Customer Complaints
O	My Ideas not Treated as Important, Not Consulted on Matters
P	Work Environment in the Office
Q	Don't Know
R	Excessive Paperwork
S	Not Knowing What is Expected of Me
T	Job not that for Which Trained
U	New Workers Get Picked On
V	Eyestrain
W	Do Work Others Won't Do
X	Typing
Y	Coworkers
Z	Others, Pay Schedules, Scheduling of Payment Books, No Public Contact, Noise

Page 32, Item 3a, Card 7 (20)

A	Adult Education
B	Jr. College
C	Four-year College
D	Business School
E	Co. Training Program
F	A & B
G	A & C
H	A & D
I	A & E
J	B & C
K	B & D
L	B & E
M	C & D
N	C & E
O	D & E
P	
Q	
R	
S	
T	
U	
V	
W	
X	
Y	
Z	Other

Page 32, Item 3b, Card 7 (21)

A	Psychology	N	Combination in More than One Area
B	English	O	Chemistry
C	Accounting	P	Teacher Education
D	Business	Q	Shorthand
E	Liberal Arts	R	Management
F	Problems of Democracy	S	Medical Secretary
G	Mathematics	T	Combination
H	Principles of Banking	U	Typing
I	A and B Above	V	Computer Programming
J	Art	W	Flexowriter
K	Foreign Language	X	IBM
L	Keypunch Operation	Y	Personal Relations
M	Business Administration	Z	Other

Page 32, Item 6, Card 7 (43-50)

A	Trigonometry
B	None are of Help
C	Geometry
D	Spanish
E	Nurse's Math
F	Algebra & Trigonometry
G	Psychology
H	Personal Typing
I	Problems of Democracy
J	
K	
L	
M	
N	
Z	Other

Page 32, Item 7, Card 7 (51-60)

A	Don't Know
B	None
C	Psychology
D	More English
E	More Math
F	Spanish
G	Dexterity Course
H	Speaking
I	College English
J	Speed Reading
K	Geography
L	Foreign Lanaguage
M	Sociology
N	
Z	Other

Page 32, Item 7a, Card 7 (61-65)

A	Use on Job
B	To Help Me Speak Better
C	Help with Personal Relations
D	Write Better
E	Prepare for a Better Job
F	Reading Improvement
G	Help Communications
H	
I	
Z	Other

End Card 7

Page 33, Item 8, Card 8 (9-51)

A	Retailing
B	Business Psychology
C	Business Practices
D	Filing
E	Notehand
F	Personal Typing
G	Sociology
H	Data Processing
I	
Z	Other

Page 33, Item 9, Card 8 (53-58)

A	More Background in Insurance
B	Greater Skill with Machines
	Keypunch
	Duplicating
	Flexowriter
	Dictabelt
	Teletype
	Typewriter (Maintenance)
	Comptometer
	Rotary Calculator
	Switchboard
	Blueprint Machine
	Vari-Typer
C	More Skill in Working with Materials to be Filed
D	Greater Ability to Talk on the Phone
E	English for Business
F	General Office Training & Orientation
G	Ability to Work with People
H	Typing
I	Technical Terms
J	None
K	Postal Knowledge
L	English Grammar & Vocabulary
M	Transcription
N	States & Countries
O	Concentration
P	Bookkeeping
Q	Background in Banking
R	Coding
S	More Business Math
T	Ability to Communicate with People
U	Compose Letters
V	How to Make Corrections
W	Business Procedures
X	Arithmetic Skills
Y	Spelling & Punctuation
Z	Other

Page 33, Item 9a, Card 8 (59-64)

A	More Background in Insurance
B	Greater Skill with Machines
C	More Skill in Working with Materials to be Filed
D	Greater Ability to Talk on the Phone
E	English for Business
F	General Office Training with Orientation
G	Ability to Work with People
H	None
I	Postal Knowledges
J	English Grammar & Vocabulary
K	States & Countries
L	Concentration
M	Banking--Knowledge and Background
N	Typing
O	More Business Math
P	Bookkeeping
Q	Ability to Communicate with People
R	Compose Letters
S	How to Make Corrections
T	Business Terms
U	Transcription
V	Pulling Specifications
W	
X	
Y	
Z	Other

Page 33, Item 10, Card 8 (65-69)

A	Company's System of Bookkeeping
B	Understanding People
C	How to Use Special Types of Office Machines
D	Specialized Aspects of Typewriting
E	Specialized Business Terms
F	Duplicating
G	Filing
H	Don't Know
I	None
J	Woodworking
K	Dictaphone Usage
L	Letter Set-up
M	Typing
N	Bookkeeping
O	Keypunching
P	Spanish
Q	All of Them
R	Economics
S	Set up Special Business Forms
T	Office Procedures
U	Answering the Phone
V	Insurance
W	Any Specialized Procedure that Vary from Company to Company
Y	
Z	Other, Getting along with people, Shorthand, Business Law, General Business Courses

Page 33, Item 11a, Card 8 (71-73)

A	Increased Understanding of Importance of the Office
B	Work in the Office More Difficult than Previously Thought
C	Work in the Office Less Difficult than Previously Thought
D	Office Work not as Desirable as Previously Thought
E	Less Interesting
F	More Interesting
G	People are Different than Expected
H	Like to Study Business Administration
I	See Bigger Picture
J	Like it Better
K	Dislike it More
L	Finds Rugged Individualism in Business
M	Busy all the Time
N	More Informal than Previously Thought
O	Thought Business was Glamorous and Wealthy
P	Thought Business was Dull and Uninteresting
Q	Realized that There was More to an Office

Page 33, Item 11a, Card 8 (71-73) (con't)

R Had a Lot to Learn on the Job
S Did not Receive a Realistic Picture in School
T Accuracy is More Important than Speed
U Thought Business would be Exciting and Challenging
V Never Thought much about Business
W More Specialization in Work
X
Y
Z Other
  Was going to College to Major in Business
  Didn't Care about Working in Business
  Thought it was More Serious Before
  Understands Finance
  Accepts Things
  Business more Serious than Thought
  All Offices are Different--You Need Experience
  Thought Pay would be Higher

Page 33, Item 12, Card 8 (74-79)

A No Change
B Would Take College Prep Course
C Would Take More Business Courses
D Would Take Shorthand
E Would Take More Typewriting
F Would Take a Language
G Take Much Science
H 2 Years of College, 2 years of Business
I Take Office Practice
J Take More Math
K Take Bookkeeping (Accounting)
L Would not take Steno
M Wouldn't Take College English
N Study Harder
O More Variety of Courses
P Take College English
Q -------
R Take More Shorthand
S Take Fewer College Courses
T Keypunch and Data Processing
U Take More General Courses
V Take Less Typewriting
W Wouldn't Take Bookkeeping
X Take Office Machines
Y Business English
Z Other
  Leave out home planning
  Changed program at a different time
  Creative writing
  More personal use courses
  Business Law
  Would take more art, psychology, and sales
  Would not take language, and history

Page 35, Item 9, Card 6

Skill Areas (41-48)

A General Typing Ability
B Typing Accuracy
C Typing Speed
D General Shorthand Ability
E Ability to Take Dictation
F Ability to Transcribe
G Filing Ability
H Bookkeeping and Accounting Abilities
I Machine Operation Ability
J Telephone Use Abilities
K Math Application
L Legible Writing Ability
M Spelling Ability
N Understanding of the Business
O Accuracy
P Proofreading
Q Duplicating
R Distribution
S English
T Workdone
U Letterwriting
V Paperwork
W Speed
X Statistical Typing
Y
Z Other

Office Education Study LEGEND (con't) (final draft)

Page 35, Item 9, Card 6

Personal Areas (49-58)

A	Emotional Stability	N	Dependability
B	Adaptability	O	Acceptance of Responsibility
C	Speed of Learning	P	Personal Appearance
D	Interaction with People	Q	Work Habits
E	Maturity	R	Effort
F	Attendance (including punctuality)	S	Intelligence
G	Attention to Duties	T	Seriousness
H	Willingness to Work	U	Initiative
I	Neatness in Work	V	Organization of Work
J	Personality	W	Minds his own Business
K	Interest in Job	X	Introvert
L	Accuracy	Y	Extrovert
M	Potential	Z	Other

General Areas (59-66)

A	Knowledge of Business Organization and Practices
B	Knowledge of Business Terms and Concepts
C	Reading Ability
D	English Grammar Knowledge
E	English Composing Ability
F	Office Etiquette
G	Vocabulary (General)
H	Knowledge of Business Practices
I	Knowledge of Business Concepts
J	Business English
K	Insurance Courses
L	Spelling
M	English
N	Follow Directions
O	Math
P	Speaking
Q	Estimating
R	Analytical
S	Mechanical Aptitude
T	Care of Machines
U	
V	
Z	Other

Page 35, Item 10, Card 6 (67-79)

AA	Teach Responsibility to Work According to Best of Ability
AB	Improve Spelling
AC	Give Better Understanding of Math
AD	Improve General Quality of Typing
AE	Encourage More Students to Take Business Course
AF	Improve Students' Attitude Towards Work
AG	Give More Emphasis to English
AH	Teach Office Etiquette
AI	Teach How to Get Along with People
AJ	Stress Quality of Work
AK	Help Students Develop Initiative
AL	Teach Students How to Proofread
AM	Put More Emphasis on Development of Personal Qualities (Desirable)
AN	Teach More About the Business Community
AO	Teach More About What Business Expects of its Employees
AP	Develop Respect for Office Protocol
AQ	Use of Machines
AR	Business Organization
AS	Knowledge of Computer
AT	Discipline
AU	Handwriting
AV	Neat Corrections
AW	Appearance
AX	Have Interest in Work
AY	Business Vocabulary
AZ	Others Not Listed Above
BA	Less School Flexibility in Error Allotment
BB	Encourage all Students to take Typing and Shorthand
BC	Relate Course Work to Principles of Business
BD	Schools are Doing an Excellent Job of Preparing Workers
BE	Stress should be Placed on Telephone Skills
BF	Dictation Abilities should be Stressed
BG	Communications
BH	Keep Personal Life out of Office
BI	More Emphasis on Bookkeeping
BJ	IBM Training & Data Processing
BK	Broad General Educational Background
BL	Ability to Think Logically
BM	Work in Reading (Speed and Comprehension)
BN	Improve Filing Skills
BO	Stress Punctuality
BP	Stress Accuracy of Work
BQ	Cooperative Office Practice
BR	Too Aggressive
BS	Some Basic Geographic Knowledge
BT	Punctuation Skills
BU	Sense of Responsibility
BV	Attitude of Full Day's Work for Full Day's Pay
BW	Type Numbers
BX	Respect for Older People
BY	Teach Dependability

Page 35, Item 10, Card 6 (67-79) (con't)

BZ	None
CA	Preparation for Interviewing
CB	Part-time Experience
CC	Have Goals
CD	Realities of Business
CE	Knowledge of Alphabet
CF	Definitions of Words
CG	Aptitude Tests
CH	Responsibility to Get Necessary Work Done
CI	Guidance for Office Work
CJ	General Accounting Course for All
CK	Ask Questions if Need to
CL	Any Job is Important
CM	Keypunch Training
CN	Quality of Work
CO	Writing (Composition type)
CP	Opportunities in Business Career
CQ	Conform to Company's Form
CR	Use A-V Equipment
CS	Self-confidence
CT	Mind Own Business
CU	If don't like Job, Transfer
CV	Care of Equipment
CW	Students have been Adequately Prepared
CX	Typing Letters
CY	Interpreting Symbols from Rough Draft in Typing
CZ	Course in Insurance
DA	Learn to Take Orders
DB	Mature Attitude
DC	Psychology

APPENDIX C

Tables 1A, 2A, and 3A

TABLE 1A

DUTIES PERFORMED BY BEGINNING OFFICE WORKERS, BY TPT TOTAL

Job Tasks*	Total		Daily									Occasionally						TPT# Total
			Over 3 hrs. (25 wgt.)			1-3 hrs. (10 wgt.)			Less than 1 hour (4 wgt.)			Weekly (4 wgt.)			Monthly (4 wgt.)			
	No.	%N	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	
(OB) Fill in or complete blank forms	121	23.2	34	6.5	28.1	32	6.1	26.4	33	6.3	27.3	13	2.5	10.7	9	1.7	7.4	1390
(DA) File per established system	140	26.8	24	4.6	17.1	41	7.9	29.3	47	9.0	33.6	12	2.3	8.6	16	3.1	11.4	1310
(OC) Type from rough draft	96	18.4	23	4.4	23.9	18	3.4	18.7	24	4.6	25.0	19	3.6	19.8	12	2.3	12.5	975
(OH) Type cards, envelopes, etc.	90	17.2	19	3.6	21.1	20	3.8	22.2	32	6.1	35.6	12	2.3	13.3	7	1.3	7.8	879
(DB) Locate materials on request	74	14.2	19	3.6	25.7	19	3.6	25.7	30	5.7	40.5	4	0.8	5.4	2	0.4	2.7	809
(OI) Verify totals on forms	60	11.5	17	3.3	28.3	11	2.1	18.3	21	4.0	35.0	4	0.8	6.7	7	1.3	11.7	663
(ED) Sort and file records	56	10.7	14	2.7	25.0	22	4.2	39.3	11	2.1	19.6	6	1.1	10.7	3	0.6	5.4	650
(FB) Punch cards from coded material	29	5.6	25	4.8	86.2				3	0.6	10.3	1	0.2	3.4				641
(EH) Answer telephone, run errands	53	10.1	17	3.3	32.1	11	2.1	20.7	20	3.8	37.7	4	0.8	7.5	1	0.2	1.9	635
(OJ) File correspondence	69	13.2	12	2.3	17.4	17	3.3	24.6	24	4.6	34.8	11	2.1	15.9	5	1.0	7.2	630
(EA) Copy one document to another	49	9.4	15	2.9	30.6	13	2.5	26.5	13	2.5	26.5	5	1.0	10.2	3	0.6	6.1	589
(EB) Proofread records	51	9.8	13	2.5	25.5	17	3.3	33.3	12	2.3	23.5	6	1.1	11.8	3	0.6	5.9	579
(OD) Type form letters	66	12.6	10	1.9	15.2	15	2.9	22.7	19	3.6	28.8	12	2.3	18.2	10	1.9	15.2	564
(OE) Type tables and statistics	62	11.9	10	1.9	16.1	15	2.9	24.2	11	2.1	17.7	6	1.1	9.7	20	3.8	32.2	548
(ZR) Routine non-skilled tasks	52	10.0	12	2.3	23.1	8	1.5	15.4	20	3.8	38.5	6	1.1	11.5	6	1.1	11.5	508
(RB) Calculate rates or payments	21	4.0	18	3.4	85.7	2	0.4	9.5	1	0.2	4.8							474
(LD) Answer telephone, take messages	60	11.5	8	1.5	13.3	9	1.7	15.0	35	6.7	58.3	5	1.0	8.3	3	0.6	5.0	462
(OA) Compose, type routine corres.	54	10.3	8	1.5	14.8	12	2.3	22.2	12	2.3	22.2	13	2.5	24.1	9	1.7	16.7	456
(OG) Prepare masters	43	8.2	9	1.7	20.9	9	1.7	20.9	9	1.7	20.9	3	0.6	7.0	13	2.5	30.2	415
(AB) Record transactions	25	4.8	12	2.3	48.0	8	1.5	32.0	4	0.8	16.0							400

*In this table the stub items under Job Tasks have been telescoped or abstracted in order to conserve table space. The double alpha code to the left of each stub item, however, will direct the reader who desires the full statement of the job task to the appropriate point in the interview guide appearing in Appendix . Thus, the code OB indicates the job task lettered B under Job O in the guide. As earlier mentioned, %N indicates percent of all 522 employees; %n indicates percent of the total number indicated on the horizontal line under Total.

#The TPT total = (Task x number of Persons x weighted Time). Thus, the TPT total for the OB task above was computed as follows: 34 x 25, 32 x 10, 33 x 4, 13 x 4, and 9 x 4; products added; = 1390.

TABLE 1A (continued)

Job Tasks	Total		Daily									Occasionally						TPT Total
			Over 3 hrs. (25 wgt.)			1-3 hrs. (10 wgt.)			Less than 1 hour (4 wgt.)			Weekly (4 wgt.)			Monthly (4 wgt.)			
	No.	%N	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	
(EI) Handle mail	28	5.4	9	1.7	32.1	9	1.7	32.1	8	1.5	28.6	1	0.2	3.6	1	0.2	3.6	355
(MI) Answer telephone, give info.	38	7.3	6	1.1	15.8	11	2.1	28.9	19	3.6	50.0	1	0.2	2.6	1	0.2	2.6	344
(HA) Sort mail	23	4.4	9	1.7	39.1	5	1.0	21.7	8	1.5	34.8	1	0.2	4.3				311
(EF) Address envelopes	37	7.1	5	1.0	13.5	9	1.7	24.3	15	2.9	40.5	6	1.1	16.2	2	0.4	5.4	307
(KC) Cash checks	15	2.9	11	2.1	73.3	2	0.4	13.3	1	0.2	6.7	1	0.2	6.7				303
(FA) Prepare machine for punching	28	5.4	9	1.7	32.1				18	3.4	64.3				1	0.2	3.6	301
(EK) Stamp or number forms	32	6.1	7	1.3	21.9	4	0.8	12.5	18	3.4	56.3	3	0.6	9.4				299
(KA) Receive checks and cash	13	2.5	11	2.1	84.6	2	0.4	15.4										295
(CA) Place forms on machine	12	2.3	10	1.9	83.3	1	0.2	8.3				1	0.2	8.3				264
(KB) Enter deposit in passbook	12	2.3	10	1.9	83.3	1	0.2	9.3	1	0.2	8.3							264
(EG) Stuff envelopes	32	6.1	5	1.0	15.6	4	0.8	12.5	14	2.7	43.8	5	1.0	15.6	4	0.8	12.5	257
(PA) Code information for processing	10	1.9	10	1.9	100.													250
(AH) Routine duties	15	2.9	7	1.3	46.7	3	0.6	20.0	4	0.8	26.7	1	0.2	6.7				225
(JA) Use proof machine	9	1.7	9	1.7	100.													225
(EC) Tally material	24	4.6	5	1.0	20.8	4	0.8	16.7	9	1.7	37.5	1	0.2	4.2	5	1.0	20.8	225
(DG) Remove obsolete material	24	4.6	6	1.1	25.0				11	2.1	45.8	3	0.6	12.5	4	0.8	16.7	222
(MA) Take and transcribe dictation	23	4.4	4	0.8	17.4	7	1.3	30.4	3	0.6	13.0	4	0.8	17.4	5	1.0	21.7	218
(ZB) Do minor machine arithmetic	13	2.5	7	1.3	53.8	3	0.6	33.1	3	0.6	33.1							217
(GB) Transcribe from recordings	9	1.7	8	1.5	88.9	1	0.2	11.1										210
(LB) Transcribe dictation--typewriter	13	2.5	6	1.1	46.2	5	1.0	38.5	1	0.2	7.7	1	0.2	7.7				208
(EJ) Operate duplicating equipment	26	5.0	4	0.8	15.4	2	0.4	7.7	11	2.1	42.3	8	1.5	30.8	1	0.2	3.8	200
(XA) Operate teletype machine	8	1.5	8	1.5	100.													200
(ME) Handle confidential records	19	3.6	5	1.0	26.3	2	0.4	10.5	4	0.8	21.1	4	0.8	21.1	4	0.8	21.1	193
(LA) Take dictation	13	2.5	5	1.0	38.5	5	1.0	38.5	3	0.6	23.1							187
(HB) Distribute mail	16	3.1	4	0.8	25.0	5	1.0	31.3	7	1.3	43.8							178
(FD) Verify materials	12	2.3	5	1.0	41.7	2	0.4	16.7	3	0.6	25.0				2	0.4	16.7	165
(DC) Classify and index material	22	4.2	2	0.4	7.4	5	1.0	18.5	14	2.7	51.8				1	0.2	3.7	160
(MJ) Keep personnel records	13	2.5	3	0.6	23.1	2	0.4	15.4	5	1.0	38.5	2	0.4	15.4	1	0.2	7.7	157
(HD) Open and date mail	21	4.0	1	0.2	4.8	8	1.5	38.1	10	1.9	47.6	1	0.2	4.8	1	0.2	4.8	153
(CC) Place forms, and set up machine	8	1.5	5	1.0	62.5	1	0.2	12.5	1	0.2	12.5	1	0.2	12.5				143

TABLE 1A (continued)

Job Tasks	Total		Daily									Occasionally						TPT Total
			Over 3 hrs. (25 wgt.)			1-3 hrs. (10 wgt.)			Less than 1 hour (4 wgt.)			Weekly (4 wgt.)			Monthly (4 wgt.)			
	No.	%N	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	
(HC) Route mail	16	3.1	2	0.4	12.5	6	1.1	37.5	7	1.3	43.8	1	0.2	6.3				142
(XB) Operate Flexowriter	7	1.3	5	1.0	75.4	1	0.2	14.3				1	0.2	14.3				139
(BB) Compute accounts due	6	1.1	5	1.0	83.3	1	0.2	16.7										135
(DJ) Repair files	19	3.6	2	0.4	10.5	2	0.4	10.5	4	0.8	21.1	5	1.0	26.3	6	1.1	31.6	130
(HH) Prepare materials for mailing	19	3.6	2	0.4	10.5	2.	0.4	10.5	10	1.9	52.6	4	0.8	21.1	1	0.2	5.3	130
(JC) Total tapes	6	1.1	5	1.0	83.3				1	0.2	16.7							129
(EE) Receive and deposit money	13	2.5	3	0.6	23.1	2	0.4	15.4	4	0.8	30.8	2	0.4	15.4	2	0.4	15.4	127
(MG) Locate and attach files	20	3.8	1	0.2	5.0	4	0.8	20.0	13	2.5	65.0	1	0.2	5.0	1	0.2	5.0	125
(ZC) Running errands	18	3.4	1	0.2	5.6	5	1.0	27.8	10	1.9	55.6	2	0.4	11.1				123
(BA) Prepare invoices	8	1.5	3	0.6	37.5	4	0.8	50.0							1	0.2	12.5	119
(KE) Maintain cash supply	8	1.5	4	0.8	50.0				2	0.4	25.0	2	0.4	25.0				116
(BC) Type invoices	8	1.5	3	0.6	37.5	3	0.6	37.5	2	0.4	25.0							113
(JB) Position checks to be endorsed	5	1.0	4	0.8	80.0	1	0.2	20.0										110
(RA) Compile data	5	1.0	4	0.8	80.0	1	0.2	20.0										110
(RC) Code information	6	1.1	4	0.8	66.7				2	0.4	33.3							108
(AA) Record transactions	8	1.5	3	0.6	37.5	2	0.4	25.0	3	0.6	37.5							107
(MH) Place telephone calls	19	3.6				5	1.0	26.3	10	1.9	52.6	3	0.6	15.8	1	0.2	5.3	106
(HI) Prepare outgoing mail	15	2.9				7	1.3	46.7	6	1.1	40.0	2	0.4	13.3				102
(MF) Read and route mail	21	4.0				3	0.6	14.3	17	3.3	80.9				1	0.2	4.8	102
(HE) Handle postage meter	14	2.7	1	0.2	7.1	4	0.8	28.6	8	1.5	57.1	1	0.2	7.1				101
(CB) Sort documents for posting	6	1.1	3	0.6	50.0	2	0.4	33.3	1	0.2	16.7							99
(AF) Take trial balance	9	1.7	2	0.4	22.2	3	0.6	33.3				2	0.4	22.2	2	0.4	22.2	96
(AC) Check and verify posting	7	1.3	2	0.4	29.0	4	0.8	57.0	1	0.2	14.3							94
(CD) Verify, summarize, bal. entries	10	1.9	2	0.4	20.0	2	0.4	20.0	2	0.4	20.0	1	0.2	10.0	3	0.6	30.0	94
(ZD) Balance totals	10	1.9	2	0.4	20.0	2	0.4	20.0	5	1.0	50.0				1	0.2	10.0	94
(AK) Type monthly statements	9	1.7	2	0.4	22.2	2	0.4	22.2				1	0.2	11.1	4	0.8	44.4	90
(CF) Operate other machines	9	1.7	2	0.4	22.2	2	0.4	22.2	5	1.0	55.6							90
(JE) Prepare recapitulation sheet	5	1.0	3	0.6	60.0	1	0.2	20.0				1	0.2	20.0				89
(AD) Reconcile bank statements	6	1.1	3	0.6	50.0				1	0.2	16.7				2	0.4	33.3	87
(XD) Operate multilith	4	0.8	3	0.6	75.0	1	0.2	25.0										85

TABLE 1A (continued)

Job Tasks	Total		Daily									Occasionally						TPT Total
			Over 3 hrs. (25 wgt.)			1-3 hrs. (10 wgt.)			Less than 1 hour (4 wgt.)			Weekly (4 wgt.)			Monthly (4 wgt.)			
	No.	%N	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	
(ZN) Record payments	4	0.8	3	0.6	75.0	1	0.2	25.0										85
(HK) Pick up and deliver messages	14	2.7	1	0.2	7.1	1	0.2	7.1	10	1.9	71.4				2	0.4	14.3	83
(JD) Prove items on batch sheet	5	1.0	3	0.6	60.0				1	0.2	20.0				1	0.2	20.0	83
(XH) Operate autotype machine	4	0.8	3	0.6	75.0				1	0.2	25.0							79
(DD) Prepare and keep file reports	9	1.7	1	0.2	11.1	3	0.6	33.3	3	0.6	33.3	1	0.2	11.1	1	0.2	11.1	75
(IA) Calculate earnings from records	3	0.6	3	0.6	100.													75
(ZV) Put material in order	7	1.3	1	0.2	14.3	4	0.8	57.1	2	0.4	28.6							73
(FC) Operate sorter and collator	6	1.1	2	0.4	33.3	1	0.2	16.7	2	0.4	33.3				1	0.2	16.7	72
(OF) Type telegrams	13	2.5				3	0.6	23.1	4	0.8	30.8	3	0.6	23.1	3	0.6	23.1	70
(BE) Type credit memcs	9	0.7	1	0.2	11.1	2	0.4	22.2	3	0.6	33.3	2	0.4	22.2	1	0.2	11.1	69
(QB) Give information	5	1.0	2	0.4	40.0	1	0.2	20.0	1	0.2	20.0				1	0.2	20.0	68
(DE) Prepare folder labels	13	2.5				2	0.4	23.0	6	1.1	46.2	1	0.2	7.7	4	0.8	30.8	64
(RD) Record information	4	0.8	2	0.4	50.0	1	0.2	25.0	1	0.2	25.0							64
(ZP) Record changes	4	0.8	2	0.4	50.0	1	0.2	25.0	1	0.4	25.0							64
(AI) Compile reports	6	1.1	1	0.2	16.7	3	0.6	50.0							2	0.4	33.3	63
(ZK) Type checks	7	1.3	1	0.2	14.3	2	0.4	28.6	2	0.4	28.6				2	0.4	28.6	61
(CE) Prepare periodic trial balance	8	1.5	1	0.2	12.5	1	0.2	12.5	2	0.4	25.0	2	0.4	25.0	2	0.4	25.0	59
(DH) Make cross reference cards	7	1.3	1	0.2	14.3	1	0.2	14.3	4	0.8	57.0				1	0.2	14.3	55
(XC) Operate Varityper	3	0.6	2	0.4	66.7				1	0.2	33.3							54
(MB) Schedule appointments	13	2.5							3	0.6	23.1	5	1.0	38.5	5	1.0	38.5	52
(XE) Operate addressograph	2	0.4	2	0.4	100.													50
(KH) Sell traveler's checks	4	0.8	1	0.2	25.0	2	0.4	50.0				1	0.2	25.0				49
(HF) Operate other postal machines	9	1.7				2	0.4	22.2	5	1.0	55.6	1	0.2	11.1	1	0.2	11.1	48
(LE) Operate office machines	5	1.0	1	0.2	20.0	1	0.2	20.0	3	0.6	60.0							47
(KD) Place "holds" on accounts	6	1.1	1	0.2	16.7				5	1.0	83.3							45
(KF) Compute service charges	8	1.5				2	0.4	25.0	2	0.4	25.0	4	0.8	50.0				44
(HJ) Keep informed on postal regs.	11	2.1							7	1.3	63.6	1	0.2	9.1	3	0.6	27.3	44
(AE) Take care of ledger forms	4	0.8	1	0.2	25.0	1	0.2	25.0	1	0.2	25.0				1	0.2	25.0	43
(AG) Assist in writing reports	6	1.1				3	0.6	50.0							3	0.6	50.0	42
(ZT) Handle Christmas Club accounts	3	0.6	1	0.2	33.3	1	0.2	33.3				1	0.2	33.3				39

TABLE 1A (continued)

Job Tasks	Total		Daily									Occasionally						TPT Total
			Over 3 hrs. (25 wgt.)			1-3 hrs. (10 wgt.)			Less than 1 hour (4 wgt.)			Weekly (4 wgt.)			Monthly (4 wgt.)			
	No.	%N	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	No.	%N	%n	
(IC) Post payroll records	2	0.4	1	0.2	50.0	1	0.2	50.0										35
(QA) Take orders from customers	2	0.4	1	0.2	50.0	1	0.2	50.0										35
(QD) Adjust complaints	2	0.4	1	0.2	50.0	1	0.2	50.0										35
(DF) Prepare file papers for filming	5	1.0				2	0.4	40.0	1	0.2	20.0				2	0.4	40.0	32
(HL) Keep log of postal activity	6	1.1				1	0.2	16.7	4	0.8	66.7	1	0.2	16.7				30
(IB) Determine net pay	1	0.2	1	0.2	100.													25
(ID) Use office machines	1	0.2	1	0.2	100.													25
(XF) Operate duplicator	1	0.2	1	0.2	100.													25
(XG) Operate blueprint machine	1	0.2	1	0.2	100.													25
(HM) Obtain delivery receipts	6	1.1							5	1.0	83.3	1	0.2	16.7				24
(KI) Open new accounts	3	0.6				2	0.4	66.7				1	0.2	33.3				24
(MC) Make travel arrangements	6	1.1										1	0.2	16.7	5	1.0	83.3	24
(HG) Take mail to post office	5	1.0							3	0.6	60.0	2	0.4	40.0				20
(QF) Call concerning accounts	2	0.4				2	0.4	100.										20
(QG) Collect money for payments	2	0.4				2	0.4	100.										20
(ZQ) Type data on form letter	3	0.6				1	0.2	33.3	1	0.2	33.3				1	0.2	33.3	18
(KG) Microfilm records	3	0.6				1	0.2	33.3	1	0.2	33.3				1	0.2	33.3	18
(FE) Operate accounting machine	2	0.4				1	0.2	50.0				1	0.2	50.0				14
(ML) Supervise clerical workers	2	0.4				1	0.2	50.0				1	0.2	50.0				14
(ZA) Do minor arithmetic	2	0.4				1	0.2	50.0				1	0.2	50.0				14
(ZS) Compute interest	2	0.4				1	0.2	50.0				1	0.2	50.0				14
(BF) Type credit forms	2	0.4				1	0.2	50.0				1	0.2	50.0				14
(BD) Type shipping labels	3	0.6							1	0.2	33.3				2	0.4	66.7	12
(MD) Arrange for social functions	3	0.6							1	0.2	33.3	1	0.2	33.3	1	0.2	33.3	12
(DI) Prepare tickler file	2	0.4							1	0.2	50.0	1	0.2	50.0				8
(QC) Investigate customer complaints	2	0.4							2	0.4	100.							8
(AJ) Prepare tax reports	1	0.2										1	0.2	100.				4
(MK) Take minutes	1	0.2													1	0.2	100.	4
(ZO) Receive and record payments	1	0.2							1	0.2	100.							4
(LC) Use shorthand machine	0	0.0																0

TABLE 2A

SKILLS, KNOWLEDGES, AND UNDERSTANDINGS PERCEIVED AS NEEDED BY BEGINNING OFFICE WORKERS
(Responses of Workers Reported in Numbers and Full Percentages Only)

Skill, Knowledge, Understanding* (Worker needs to know:)	N=522 Total		Job Families														
			n'=45 Bookpng.			n'=321 Clerical			n'=84 Mach. Op.			n'=25 Cust. Con.			n'=47 Sten-Sec.		
	No.	%N	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'
4-20 How to write numbers legibly	396	76	41	8	91	249	48	78	50	10	60	21	4	84	35	7	75
4-18 How to spell correctly	366	70	32	6	71	219	42	68	52	10	62	16	3	64	47	9	100
4-17 How to do basic arithmetic	342	66	43	8	96	208	40	65	48	9	57	20	4	80	23	4	49
4-22 How to talk on telephone effectively	332	64	25	5	56	207	40	65	37	7	44	20	4	80	43	8	91
4-21 How to write copy legibly	317	61	34	7	76	195	37	61	43	8	51	16	3	64	29	6	62
5-09 The different filing systems	292	56	25	5	56	199	38	62	30	6	36	14	3	56	24	5	51
5-13 How to sort materials for filing	291	56	20	4	44	204	39	64	24	5	29	10	2	40	33	6	70
4-09 How to type accurately, moderate speed	293	56	11	2	24	181	35	56	46	9	55	13	3	52	42	8	89
4-19 How to punctuate correctly	287	55	22	4	49	178	34	56	31	6	37	10	2	40	46	9	98
4-15 How to type figures, symbols, mod. speed	272	52	9	2	20	173	33	55	43	8	51	8	2	32	39	8	83
5-12 How to arr. folders in file drawers	248	48	19	4	42	176	34	55	15	3	35	6	1	24	32	6	68
5-17 How to locate filed material	250	48	19	4	42	171	33	53	22	4	26	8	2	32	30	6	64
4-65 How to make neat corrections	238	46	10	2	22	158	30	49	16	3	19	7	1	28	44	8	94
4-62 How to address envelopes	227	44	10	2	22	153	29	48	12	2	14	7	1	28	45	9	96
5-68 Common business terms	227	43	21	4	47	133	26	41	25	5	30	9	2	36	34	7	72
4-33 How to proofread material	217	42	10	2	22	136	26	42	22	4	26	6	1	24	43	8	92
4-23 How to use telephone directory	211	40	9	2	20	136	26	42	17	3	20	15	3	60	34	7	72
4-48 How to fill in business forms	195	37	7	1	16	128	25	40	19	4	23	6	1	24	35	7	74
5-11 Filing equipment and supplies	188	36	13	3	29	127	24	40	17	3	39	4	1	16	27	5	57
4-36 How to type letters	182	35	9	2	20	119	23	37	4	1	5	3	1	12	47	9	100
4-64 How to justify right-hand typing margins	178	34	8	2	18	115	22	36	11	2	13	4	1	16	40	8	85
4-50 How to copy from handwritten notes	165	32	5	1	11	109	21	34	8	2	10	1	0	4	42	8	89
5-14 How to prepare corres. for filing	161	31	8	2	18	111	21	35	9	2	11	4	1	16	29	6	62

*The stub items (skills, knowledges, etc.) are telescoped or abstracted to conserve space. The IBM card number and column number can direct the reader desiring more complete descriptions to the proper section of the interview guide in Appendix .

TABLE 2A (continued)

Skill, Knowledge, Understanding (Worker needs to know:)	N=522 Total		Job Families														
			n'=45 Bookpng.			n'=321 Clerical			n'=84 Mach. Op.			n'=25 Cust. Con.			n'=47 Sten-Sec.		
	No.	%N	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'
4-35 How to prepare memorandums	160	31	12	2	27	95	18	30	8	2	10	2	0	8	43	8	91
4-32 When to use figures, etc., not words	157	30	10	2	22	93	18	29	11	2	13	8	2	32	35	7	74
4-69 How to place letter on page correctly	155	30	8	2	18	96	18	30	6	1	7	2	0	8	43	8	92
4-70 How to indicate enc. and carbon notations	154	30	7	1	16	95	18	30	4	1	5	2	0	8	46	9	98
4-37 How to type memorandums	150	29	10	2	22	90	17	28	4	1	5	1	0	4	45	9	96
5-58 How to use short-cut arithmetic	148	28	27	5	60	86	17	27	18	3	21	11	2	44	6	1	13
4-66 How to plan letter placement	143	27	6	1	13	93	18	29	4	1	5	0	0	0	40	8	85
4-39 How to type index cards	135	26	7	1	16	86	17	27	9	2	11	4	1	16	29	6	62
4-67 How to estimate letter length	135	26	7	1	16	87	17	27	5	1	6	0	0	0	36	7	77
5-10 Commercial alphabetic systems	137	26	7	1	16	97	19	30	15	3	18	2	0	8	16	3	34
5-15 How to code, index, file bus. papers	132	25	10	2	22	92	18	29	9	2	11	2	0	8	19	4	40
4-34 How to compose letters	128	25	11	2	24	81	16	25	1	0	1	1	0	4	34	7	72
4-43 How to type business forms	127	24	2	0	4	84	16	26	3	1	4	5	1	20	31	6	66
5-20 How to establish a filing system	127	24	7	1	16	87	17	27	11	2	13	3	1	12	19	4	40
5-18 How to transfer files	118	23	8	2	18	87	17	27	8	2	10	2	0	8	13	3	28
4-61 How to type spread headings	116	22	5	1	11	71	14	22	7	1	8	4	1	16	29	6	62
5-61 How to figure percentages	116	22	27	5	60	66	13	21	7	1	8	7	1	28	9	2	19
4-49 How to type two-page letters	115	22	1	0	2	69	13	22	1	0	1	0	0	0	44	8	94
5-16 How to cross-reference material	112	21	3	1	7	78	15	24	7	1	8	6	1	24	18	3	38
4-75 How to route mail in the office	111	21	7	1	16	66	13	21	5	1	6	4	1	16	29	6	62
5-59 How to handle fractions	111	21	21	4	47	68	13	21	6	1	7	7	1	28	9	2	19
4-45 How to type on ruled lines	109	21	7	1	16	72	14	22	5	1	6	1	0	4	24	5	51
4-72 How to prepare masters, (duplicating)	109	21	4	8	9	71	14	22	6	1	7	4	1	16	24	5	51
4-30 Special classes of mail	108	21	4	1	9	68	13	21	9	2	11	4	1	16	23	4	49
4-46 How to type columns and headings	106	20	4	1	9	66	13	21	8	2	10	2	0	8	26	5	55
4-24 Classes of telephone service	103	20	3	1	7	63	12	20	7	1	8	7	1	28	23	4	49
4-47 How to type reports and manuscripts	102	20	3	1	7	64	12	20	2	0	2	2	0	8	31	6	66
4-71 How to set up and rule tables	101	19	2	0	4	66	13	21	6	1	7	1	0	4	26	5	55
5-65 How to estimate arithmetic answers	94	18	23	4	51	50	10	16	10	2	12	6	1	24	5	1	11
5-52 How to prove your work in bookkeeping	87	17	17	3	38	45	9	14	17	3	20	6	1	24	2	0	43

TABLE 2A (continued)

Skill, Knowledge, Understanding (Worker needs to know:)	N=522 Total		Job Families															
			n'=45 Bookpng.			n'=321 Clerical			n'=84 Mach. Op.			n'=25 Cust. Con.			n'=47 Sten-Sec.		
	No.	%N	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'
5-53 How to locate and correct bkkp. errors	87	17	20	4	44	43	8	13	15	3	18	9	2	36	0	0	0
5-60 Decimal equivalents of fractions	87	17	22	4	49	49	9	15	4	1	5	6	1	24	6	1	13
5-19 How to maintain a prospect file	82	16	8	2	18	56	11	17	6	1	7	3	1	12	9	2	19
5-74 How to endorse checks	82	16	9	2	20	35	7	11	12	2	14	15	3	60	11	2	23
6-10 Different kinds of insurance coverage	81	16	18	3	40	44	8	14	8	2	10	6	1	24	5	1	11
4-63 How to use off-size stationery	78	15	7	1	16	48	9	16	5	1	6	1	0	4	17	3	36
4-76 How to correct dictator's errors	77	15	1	0	2	33	6	10	0	0	0	3	1	12	40	8	85
4-78 How to receive or refuse callers	77	15	3	1	7	44	8	14	2	0	2	4	1	16	24	5	51
5-70 How read and use charts and graphs	76	15	11	2	24	51	10	16	5	1	6	2	0	8	7	1	15
5-72 Services that banks offer	71	14	7	1	16	33	6	10	8	2	10	13	3	52	10	1	21
6-28 Methods by which goods are shipped	66	13	4	1	9	47	9	15	7	1	8	1	0	4	7	1	15
5-75 How checks are paid and cleared	65	12	9	2	20	31	6	10	9	2	11	11	2	44	5	1	11
5-76 How to stop payment on checks	65	12	8	2	18	34	7	11	7	1	8	10	2	40	6	1	13
6-11 How to read insurance policies	62	12	15	3	33	41	8	13	4	1	5	2	0	8	0	0	0
4-31 Special mail services	62	12	3	1	7	36	7	11	2	0	2	5	1	20	16	3	34
4-11 How to take dictation, moderate speed	61	12	0	23	4	23	4	7	1	0	1	2	0	8	35	7	74
4-54 How to type financial statements	61	12	2	0	4	38	7	12	4	1	5	5	1	20	12	2	26
5-64 How to figure discounts	60	12	9	2	20	36	7	11	6	1	7	5	1	20	4	1	9
4-44 How to type charts and graphs	57	11	2	0	4	35	7	11	1	0	1	2	0	8	17	3	36
4-13 How to transcribe accurately, mod. speed	55	11	0	0	0	20	4	6	0	0	0	3	1	12	32	6	68
6-29 How to prepare packages, etc., to ship	54	10	2	0	4	36	7	11	8	2	10	4	1	16	4	1	9
5-69 Major types of business organization	50	10	3	1	7	29	6	9	3	1	4	3	1	12	12	2	26
5-73 How to maintain checking accounts	50	10	5	1	11	22	4	7	8	2	10	7	1	28	8	2	17
4-42 How to type outlines	47	9	1	0	2	23	4	7	1	0	1	0	0	0	20	4	43
4-38 How to type postal cards	46	9	2	0	4	26	5	8	2	0	2	4	1	16	12	2	26
4-68 How to chain feed envelopes	45	9	2	0	4	29	6	9	0	0	0	2	0	8	12	2	26
5-38 How to close accounts	45	9	8	2	18	17	3	5	8	2	10	9	2	36	2	0	4
5-32 How to post ledger accounts	43	8	8	2	18	16	3	5	10	2	12	8	2	32	1	0	2
4-51 How to type indices and table contents	41	8	0	0	0	29	6	9	0	0	0	0	0	0	12	2	26
4-55 How to type briefs and summaries	36	7	3	1	7	22	4	7	0	0	0	0	0	0	11	2	23

TABLE 2A (continued)

Skill, Knowledge, Understanding (Worker needs to know:)	N=522 Total		Job Families														
			n'=45 Bookpng.			n'=321 Clerical			n'=84 Mach. Op.			n'=25 Cust. Con.			n'=47 Sten-Sec.		
	No.	%N	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'	No.	%N	%n'
6-13 How to read financial statements	36	7	9	2	20	21	4	7	2	0	2	3	1	12	1	0	2
4-10 How to type accurately, high speed	33	6	0	0	0	16	3	5	6	1	7	2	0	8	9	2	19
4-28 How to write telegraphic messages	33	6	2	0	4	19	4	6	2	0	2	1	0	4	9	2	20
4-52 How to type notes and minutes	33	6	0	0	0	18	3	6	0	0	0	4	1	16	11	2	23
5-48 How to prepare work sheets	32	6	7	1	16	21	4	7	1	0	1	2	0	8	1	0	2
5-29 How to maintain customer accounts	31	6	7	1	16	14	3	4	7	1	8	3	1	12	0	0	0
5-40 How to prepare invoices, etc.	29	6	5	1	11	20	3	6	3	1	4	1	0	4	0	0	0
6-17 Types of public transportation	28	5	3	1	7	17	3	5	2	0	2	1	0	4	5	1	11
4-16 How to type figures, symbols, high rate	27	5	0	0	0	13	2	4	7	1	8	2	0	8	5	1	11
5-30 How to record purchases and returns	25	5	4	1	9	10	2	3	6	1	7	3	1	12	2	0	4
5-23 How to keep stock room records	24	5	5	1	11	13	2	4	3	1	4	3	1	12	0	0	0
6-09 Types and sources, business financing	24	5	6	1	13	12	2	4	3	1	4	3	1	12	0	0	0
6-12 Credit rating agencies	24	5	5	1	11	15	3	5	2	0	2	1	0	4	1	0	2
6-19 How to make travel arrangements	23	4	1	0	2	11	2	3	2	0	2	3	1	12	6	1	13
4-41 How to type speech notes	22	4	0	0	0	13	3	4	0	0	0	1	0	4	8	2	17
4-56 How to type legal documents	22	4	1	0	2	11	2	3	0	0	0	0	0	0	10	2	21
4-79 How to schedule appointments	22	4	0	0	0	9	1	3	0	0	0	1	0	4	12	2	26
5-50 How to make bkkp. entries from bus. forms	22	4	3	1	7	13	3	4	5	1	6	1	0	4	0	0	0
6-20 How to select and make reservations	22	4	1	0	2	10	2	3	3	1	4	2	0	8	6	1	13
5-47 How to prepare a trial balance	21	4	6	1	13	7	1	2	6	1	7	2	0	8	0	0	0
4-27 Types of telegraph service	21	4	0	0	0	10	2	3	2	0	2	1	0	4	8	2	17
5-39 How to extent and total invoices	20	4	1	0	2	16	3	5	3	0	4	0	0	0	0	0	0
4-40 How to type itineraries	19	4	0	0	0	6	1	2	0	0	0	1	0	4	12	2	26
4-60 How plan footnotes	19	4	2	0	4	7	1	2	2	0	2	2	0	8	6	1	13
5-33 How to record interest on notes, accts.	19	4	1	0	2	8	2	3	4	1	5	6	1	24	0	0	0
5-42 How to take inventory	17	3	2	0	4	12	2	4	1	0	1	1	0	4	1	0	2
5-62 How to make payroll computations	17	3	5	1	11	7	1	2	1	0	1	3	1	12	1	0	2
4-14 How to transcribe accurately, high speed	16	3	1	0	2	4	1	1	0	0	0	1	0	4	11	2	23
4-25 How to operate an office switchboard	16	3	0	0	0	11	2	3	1	0	1	2	0	8	2	0	4
5-25 How to record journal transactions	16	3	3	1	7	6	1	2	3	1	4	3	1	12	1	0	2

TABLE 2A (continued)

Skill, Knowledge, Understanding (Worker needs to know:)	N=522 Total No.	%N	Job Families: n'=45 Bookpng. No.	%N	%n'	n'=321 Clerical No.	%N	%n'	n'=84 Mach. Op. No.	%N	%n'	n'=25 Cust. Con. No.	%N	%n'	n'=47 Sten-Sec. No.	%N	%n'
5-49 How to prepare financial statements	16	3	7	1	16	4	1	1	3	1	4	1	0	4	1	0	2
5-62 How to compute markups and markdowns	16	3	5	1	11	11	2	3	0	0	0	0	0	0	0	0	0
5-28 How to use controlling accounts	14	3	4	1	9	4	1	1	4	1	5	2	0	8	0	0	0
5-71 How to use common ref. publications	14	3	2	0	4	0	0	0	1	0	1	8	2	32	3	1	6
5-31 How to maintain special journals	13	3	5	1	11	2	0	1	4	1	10	1	0	4	1	0	2
6-18 How to use services of travel agency	13	3	1	0	2	8	2	3	2	0	2	1	0	4	1	0	2
5-26 How to maintain a check register	12	2	1	0	2	6	1	2	2	0	2	3	1	12	0	0	0
5-36 How to record accruals, other adjust.	12	2	4	1	9	4	1	1	4	1	5	0	0	0	0	0	0
5-37 How to keep perpetual inventory records	12	2	2	0	4	9	2	3	1	0	1	0	0	0	0	0	0
4-77 How to serve as secretary at meetings	11	2	0	0	0	5	1	2	0	0	0	1	0	4	5	1	11
5-27 How to keep a cash book	11	2	3	1	6	4	1	1	1	0	1	3	1	12	0	0	0
6-21 How to read time tables	11	2	1	0	2	7	1	2	2	0	2	1	0	4	0	0	0
4-53 How to type footnotes and bibliog.	10	2	0	0	0	5	1	2	0	0	0	3	1	12	2	0	4
5-41 How to maintain payroll records	10	2	3	1	7	2	0	1	3	1	4	1	0	4	1	0	2
5-24 How to maintain petty cash fund	9	2	0	0	0	3	1	1	1	0	1	5	1	20	0	0	0
4-12 How to take dictation, high speed	7	1	0	0	0	1	0	0	0	0	0	2	0	8	4	1	9
6-22 Safe means of carrying travel funds	7	1	1	0	2	4	0	1	0	0	0	1	0	4	1	0	2
5-51 How to compute payrolls with deductions	6	1	1	0	2	2	0	1	2	0	2	1	0	4	0	0	0
6-23 Means of exchanging currencies	6	1	0	0	0	4	1	1	0	0	0	2	0	8	0	0	0
5-35 How to compute and record depreciation	6	1	1	0	2	2	0	1	3	1	4	0	0	0	0	0	0
4-26 Other telephone skills or knowledges	5	1	0	0	0	0	0	0	1	0	1	1	0	4	3	1	6
5-34 How to maintain fixed assets records	5	1	1	0	2	1	0	0	2	0	2	1	0	4	0	0	0
6-24 How to obtain passports and visas	5	1	0	0	0	2	0	1	0	0	0	3	1	12	0	0	0
5-46 How to prepare a budget analysis	4	1	0	0	0	2	0	1	0	0	0	2	0	8	0	0	0
5-54 How to design business forms	4	1	0	0	0	2	0	1	0	0	0	1	0	4	1	0	2
5-46 How to prepare a budget	3	1	0	0	0	2	0	1	0	0	0	1	0	4	0	0	0
4-29 Other telegraph skills or knowledges	2	0	0	0	0	0	0	0	1	0	1	1	0	4	0	0	0
5-43 How to prepare tax reports	2	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0
6-15 Other insurance and credit knowledges	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 3A

SKILLS, KNOWLEDGES, AND UNDERSTANDINGS PERCEIVED AS NEEDED BY BEGINNING OFFICE WORKERS
(Arranged in the Order in which Presented to Workers)

Skill, Knowledge, Understanding* (Worker needs to know:)	Number	Percent of All Workers Interviewed
General:		
4-09 How to type accurately, moderate speed	293	56
4-10 How to type accurately, high speed	33	6
4-11 How to take dictation, moderate speed	61	12
4-12 How to take dictation, high speed	7	1
4-13 How to transcribe accurately, moderate speed	55	11
4-14 How to transcribe accurately, high speed	16	3
4-15 How to type figures, symbols, moderate speed	272	52
4-16 How to type figures, symbols, high speed	27	5
4-17 How to do basic arithmetic	342	66
4-18 How to spell correctly	366	70
4-19 How to punctuate correctly	287	55
4-20 How to write numbers legibly	396	76
4-21 How to write copy legibly	317	61
About Communications		
4-22 How to talk on telephone effectively	332	64
4-23 How to use telephone directory	211	40
4-24 Classes of telephone service	103	20
4-25 How to operate an office switchboard	16	3
4-26 Types of telegraph service	21	4
4-28 How to write telegraphic messages	33	6
4-30 Special classes of mail	108	21
4-31 Special mail services	62	12
4-32 When to use figures, etc., not words	157	30
4-33 How to proofread material	217	42
4-34 How to compose letters	128	25
4-35 How to prepare memos	160	31
4-36 How to type letters	182	35
4-37 How to type memorandums	150	29
4-38 How to type postal cards	46	9

*The stub items (skills, knowledges, etc.) are telescoped or abstracted to conserve space. The IBM card number and column number appearing at the left of each stub item can direct the reader desiring more detailed description to the proper item in the interview guide in Appendix .

TABLE 3A (continued)

Skill, Knowledge, Understanding (Worker needs to know:)	Number	Percent of All Workers Interviewed
4-39 How to type index cards	135	26
4-40 How to type itineraries	19	4
4-41 How to type speech notes	22	4
4-42 How to type outlines	47	9
4-43 How to type business forms	127	24
4-44 How to type charts and graphs	57	11
4-45 How to type on ruled lines	109	21
4-46 How to type columns and headings	106	20
4-47 How to type reports and manuscripts	102	20
4-48 How to fill in business forms	195	37
4-49 How to type two-page letters	115	22
4-50 How to copy from handwritten notes	165	32
4-51 How to type indices and table contents	41	8
4-52 How to type notes and minutes	33	6
4-53 How to type footnotes and bibliographies	10	2
4-54 How to type financial statements	61	12
4-55 How to type briefs and summaries	36	7
4-56 How to type legal documents	22	4
4-60 How to plan footnotes	19	4
4-61 How to spread headings	116	22
4-62 How to address envelopes	227	44
4-63 How to use off-size stationery	78	15
4-64 How to justify right-hand typing margins	178	34
4-65 Make neat corrections	238	46
4-66 How to plan letter placement	143	27
4-67 How to estimate letter length	135	26
4-68 How to chain feed envelopes	45	9
4-69 How to place letter on page correctly	155	30
4-70 How to indicate enclosures and carbon notations	154	30
4-71 How to set up and rule tables	101	19
4-72 How to prepare masters, (duplicating)	109	21
4-75 How to route mail in the office	111	21
4-76 How to correct dictator's errors	77	15
4-77 How to serve as secretary at meetings	11	2
4-78 How to receive or refuse callers	77	15
4-79 How to schedule appointments	22	4
About Filing		
5-09 The different filing systems	292	56
5-10 Commercial alphabetic systems	137	26

TABLE 3A (continued)

Skill, Knowledge, Understanding (Worker needs to know:)	Number	Percent of All Workers Interviewed
5-11 Filing equipment and supplies	188	36
5-12 How to arrange folders in file drawers	248	48
5-13 How to sort materials for filing	291	56
5-14 How to prepare correspondence for filing	161	31
5-15 How to code, index, file business papers	132	25
5-16 How to cross reference materials	112	21
5-17 How to locate filed materials	250	48
5-18 How to transfer files	118	23
5-19 How to maintain a prospect file	82	16
5-20 How to establish a filing system	127	24
About Financial Recordkeeping and Bookkeeping		
5-23 How to keep stockroom records	24	5
5-24 How to maintain petty cash fund	9	2
5-25 How to record journal transactions	16	3
5-26 How to maintain a check register	12	2
5-27 How to keep a cash book	11	2
5-28 How to use controlling accounts	14	3
5-29 How to maintain customer accounts	31	6
5-30 How to record purchases and returns	25	5
5-31 How to maintain special journals	13	3
5-32 How to post ledger accounts	43	8
5-33 How to record interest on notes, accounts	19	4
5-34 How to maintain fixed assets records	5	1
5-35 How to compute and record depreciation	6	1
5-36 How to record accruals and adjustments	12	2
5-37 How to keep perpetual inventory records	12	2
5-38 How to close accounts	45	9
5-39 How to extend and total invoices	20	4
5-40 How to prepare invoices, etc.	29	6
5-41 How to prepare payroll records	10	2
5-42 How to take inventory	17	3
5-43 How to prepare tax reports	2	0
5-45 How to prepare a budget	3	1
5-46 How to prepare a budget analysis	4	1
5-47 How to prepare a trial balance	21	4
5-48 How to prepare work sheets	32	6
5-49 How to prepare financial statements	16	3
5-50 How to make bkkp. entries from business forms	22	4
5-51 How to compute payrolls with deductions	6	1

TABLE 3A (continued)

Skill, Knowledge, Understanding (Worker needs to know:)	Number	Percent of All Workers Interviewed
5-52 How to prove your work	87	17
5-53 How to locate and correct bkkp. errors	87	17
5-54 How to design business forms	4	1
About Arithmetic		
5-58 How to use short-cut arithmetic	148	28
5-59 How to handle fractions	111	21
5-60 Decimal equivalents of fractions	87	17
5-61 How to figure percentages	116	22
5-62 How to make payroll computations	17	3
5-63 How to compute markups and markdowns	16	3
5-64 How to figure discounts	60	12
5-65 How to estimate answers	94	18
About General Business		
5-68 Common business terms	222	43
5-69 Major type of business organization	50	10
5-70 How to read and use charts and graphs	76	15
5-71 How to use common reference publications	14	3
5-72 The services banks offer	71	14
5-73 How to maintain checking accounts	50	10
5-74 How to endorse checks	82	16
5-75 How checks are paid and cleared	65	12
5-76 How to stop payment on checks	65	12
6-09 Types and sources of business financing	24	5
6-10 Different kinds of insurance coverage	81	16
6-11 How to read insurance policies	62	12
6-12 Credit rating agencies	24	5
6-13 How to read financial statements	36	7
6-17 Types of public transportation	28	5
6-18 How to use services of travel agency	13	3
6-19 How to make travel arrangements	23	4
6-20 How to select and make reservations	22	4
6-21 How to read time tables	11	2
6-22 Safe means of carrying travel funds	7	1
6-23 Means of exchanging currencies	6	1
6-24 How to obtain passports and visas	5	1
6-28 Methods by which goods may be shipped	66	13
6-29 How to prepare packages, etc., for shipment	54	10